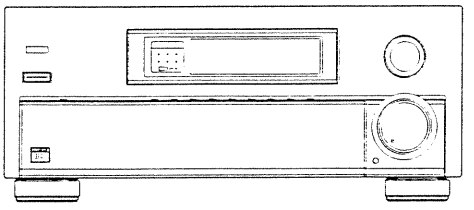
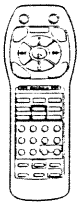
Operating Instructions

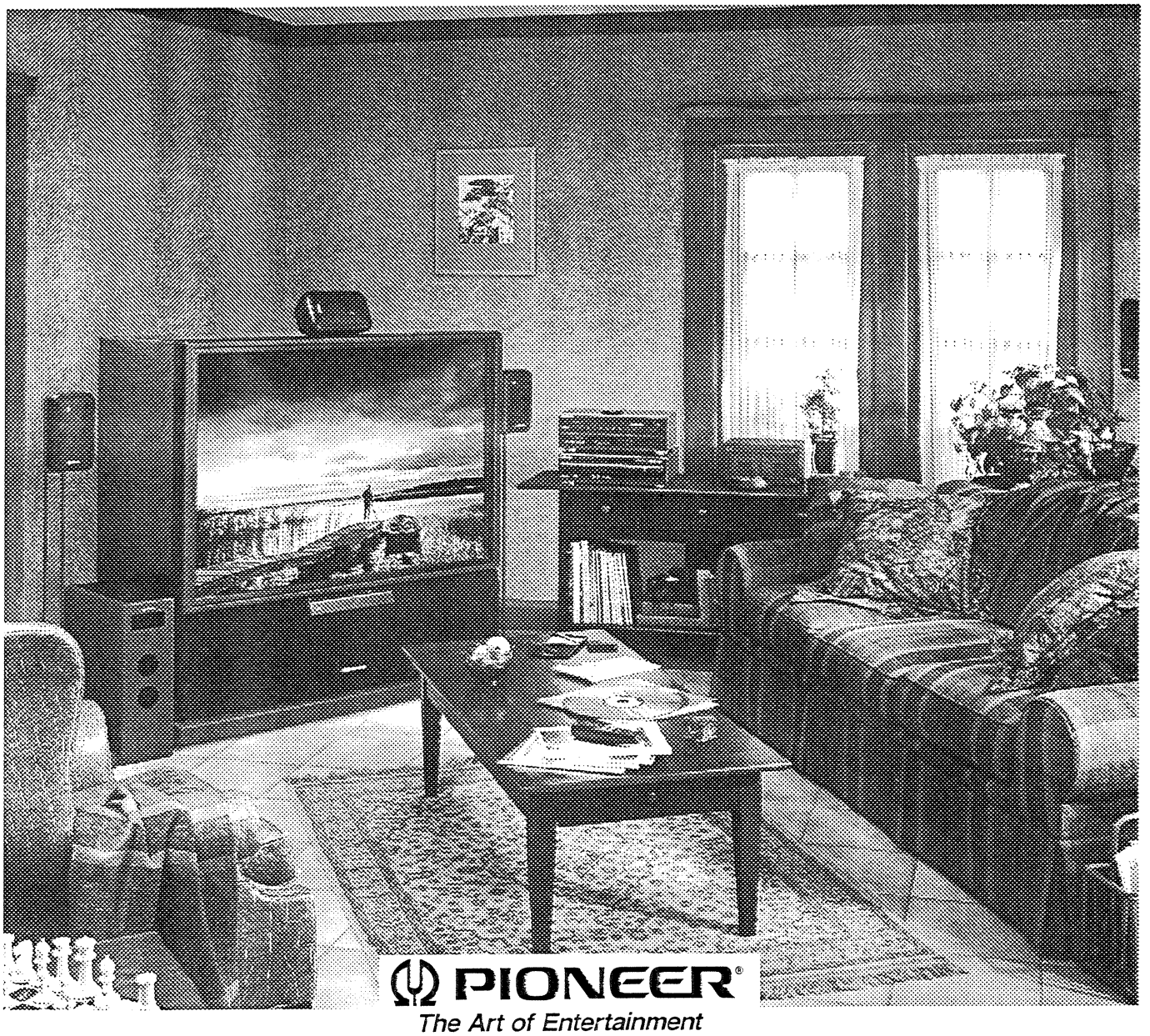
AUDIO/VIDEO STEREO AMPLIFIER





VSA-E06

PAL/NTSC



PIONEER®

The Art of Entertainment

IMPORTANT

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:
Blue : Neutral
Brown : Live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with a 5 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three-pin plug.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer.
This appliance is rated at 13 amps.
Only 5A fuses approved by B.S.I. or A.S.T.A. to B.S.1362 should be used.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

This product complies with the Low Voltage Directive (73/23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).

[For European model]
If the socket outlets on the associated equipment are not suitable for the plug supplied with the product the plug must be removed and appropriate one fitted.
The cut-off plug must be disposed of as an electrical shock hazard could exist if connected to a socket outlet.

READING THIS MANUAL

■ Meaning of Marks

memo — Provides detailed precautions and advice on operations, etc.

Indicates that buttons or displays are blinking.

Indicates that buttons or displays are lit.

■ Meaning of Illustrations

The following describes illustrations on pressing buttons of the remote control unit.

ENTER — Means to press the ENTER button.

COMMANDER SET UP + — Means to press the 0 button while pressing the COMMANDER SET UP button.

VOL – VOL + — Means to press the VOL – button or VOL + button.

FEATURES

□ DOLBY DIGITAL with THX® 5.1
By playing back Dolby Digital-compatible LD and DVD software, the dynamic effects of movie theaters and concert halls can be easily enjoyed at home.
When used in HOME THX CINEMA mode, Dolby Digital allows you to feel the same level of power and realistic sound at home as you would be in a theater.

□ DOLBY PRO LOGIC with THX
Best suited for playing back movies and music by reproducing surround effects.
Switch to the HOME THX CINEMA mode for an incredible sound field effect that reproduces the atmosphere of a movie theater.

□ 100 W 5 ch EQUAL POWER DISCRETE AMPLIFIER
5 ch equal power discrete amplifier which plays back the high quality effect of Dolby Digital.

□ 5 ch Direct Energy "MOS" AMPLIFIER
Improved power linearity made possible by the use of a high-performance Hex power MOS FET output transistor.

□ ON-SCREEN GUI (Graphical User Interface) DISPLAY
A graphical user interface (GUI) display makes it easier to operate the amplifier and remote control. It also comes with a CD file capability which makes it possible to register as many as 100 different CD titles.

□ OPERATE OTHER MANUFACTURERS' PRODUCTS USING THE MULTI CONTROL REMOTE (Heads-up Smart Remote) CONTROL UNIT
Can be used to operate other manufacturers' products by either recalling the preset infrared codes or learning those not already stored in the unit.

□ VARIOUS SURROUND EFFECTS (DSP)
Reproduces five different surround effects.

Manufactured under license from Lucasfilm Ltd. Lucasfilm and THX are registered trademarks of Lucasfilm Ltd.

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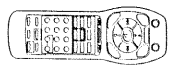
1. BEFORE USE

CHECKING ACCESSORIES

● Operating Instructions

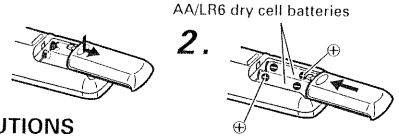


● Remote control unit

● Alkaline dry cell batteries (AA/LR6) x 3

REMOTE CONTROL UNIT

Loading remote control batteries

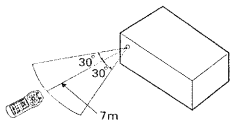


CAUTIONS

Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions.

- Never use new and old batteries together.
- Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
- Batteries with the same shape may have different voltages. Do not use different type of batteries together.

Operating range of remote control unit

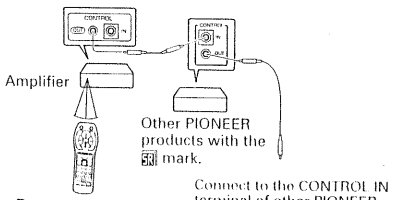


memo

- The remote control unit may not work if there is an obstacle between the remote control unit and this unit, and if the remote control unit is not directed towards the remote sensor of the main unit at the correct angle.
- The remote control unit may not work properly if strong light such as direct sunlight or fluorescent light is shining onto the main unit's remote sensor.
- The remote control unit may not work properly when this unit is used near a device emitting infrared rays, or when a remote control unit of another device which uses infrared rays is used. On the other hand, the use of this remote control unit may cause other devices to work improperly.
- When the operating range of this remote control unit becomes too short, replace the batteries.

Operating the remote control unit

By connecting the control cord (optional), other PIONEER products can be operated using this remote control unit via this unit. Direct the remote control unit towards the remote sensor of this unit. The remote control signals are received by the remote sensor of this unit, and sent to the other devices via the CONTROL OUT terminal.
By reading other manufacturers' preset codes or memorizing (learning) the remote control signals of other devices in this remote control unit, other manufacturers' devices can also be operated using this remote control unit.


Amplifier
Other PIONEER products with the mark.
Remote Control Unit
Connect to the CONTROL IN terminal of other PIONEER products with the mark.

INSTALLATION

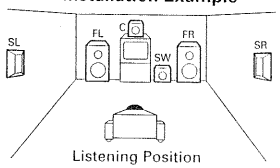
Ventilation

- When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 60 cm at the top, 10 cm at the rear, and 30 cm at each side). If not enough space is provided between the unit and walls or other equipment, heat will build up inside, interfering with performance or causing malfunctions.
- Do not place on a thick carpet, bed, sofa or fabric having a thick pile. Do not cover with fabric or other covering. Anything that blocks ventilation will cause the internal temperature to rise, which may lead to breakdown or fire hazard.

Installing the speakers

To achieve the best surround effects, install the speakers as shown in the following figure.
Install the speakers securely.

Installation Example



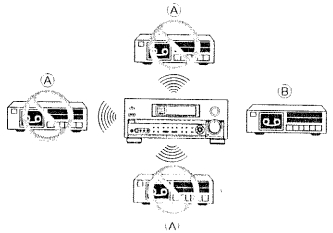
* In the above figure, F stands for front speakers, S for surround speakers, C for center speaker, SW for sub woofer, R for right, and L for left.

memo

- If installing the surround speakers far away from the front and center speakers, surround effects cannot be fully achieved.
- Installing speakers near the TV may cause interference such as the TV color to change. In such cases, use magnetically shielded speakers or install the speakers away from the TV.
- Install the left and right speakers at equal distance from the TV.
- Install the center speaker at the top, bottom or behind the TV so that TV sound and images match.
- It is recommended to install the surround speakers slightly above ear level.

Installing the cassette deck

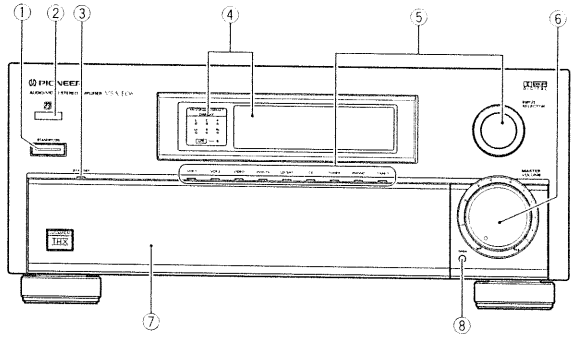
Installing the cassette deck in the following Ⓐ positions in the figure may affect playback. It is recommended that it be installed in the Ⓑ position.



NAMES OF PARTS

* The size of characters shown in the figure may differ from that on the actual product.

Front panel



① STANDBY/ON switch
This is the switch for electric power. Before operating the unit, set the MAIN POWER switch inside the ⑦ door panel to the ON position. If it is OFF, this STANDBY/ON switch does not function.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

[Timer ON/OFF is possible]
When the unit is switched ON, ON/OFF control can be performed by means of an optional timer.

NOTE:
When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

② Remote sensor

③ STANDBY indicator
The STANDBY indicator lights when the power is set to STANDBY, and goes out when set to ON.

④ Displays (page 6)

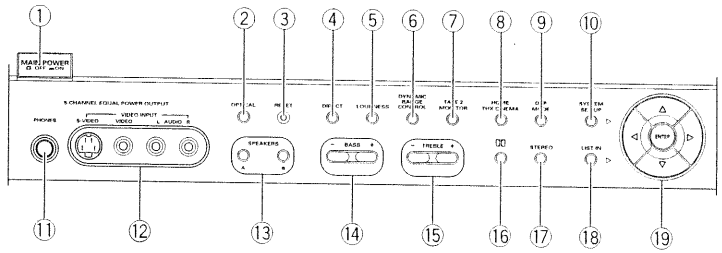
⑤ INPUT SELECTOR knob and indicators

⑥ MASTER VOLUME knob

⑦ Door panel

⑧ Door panel OPEN button

Inside the door panel



① MAIN POWER switch
This is the switch for electric power.
After completing the connection of the power cord, set the switch to ON.

② OPTICAL button (page 10)

③ RESET button (page 41)

④ DIRECT button NOTE
Use to playback sound without going through the tone control circuits. This button operates in stereo mode only.

⑤ **LOUDNESS button*NOTE**
Press this button when the volume is low to raise the low and high range levels so that the sound can be heard more easily. This button operates in stereo mode only.

⑥ **DYNAMIC RANGE CONTROL button**
This equalizes the sound to let you hear subtle sounds even when listening at low volume levels. You can only use this function during DOLBY DIGITAL operation.

⑦ **TAPE 2 MONITOR button**

⑧ **HOME THX CINEMA button (page 28)**

⑨ **DSP MODE button*NOTE (page 28)**

⑩ **SYSTEM SET UP button (page 12)**

⑪ **PHONES jack (Headphone terminal)**
During Dolby Digital operation, remember that LFE channel sound from the sub woofer is still output even if you connect the headphone plug.

⑫ **Video input terminals (page 9)**
Connect to a video camera, etc.

⑬ **SPEAKERS A, B buttons**
ON/OFF switches for the A and B speaker systems.

⑭ **BASS (–, +) buttons*NOTE**
Use to adjust tone. These buttons operate in stereo mode only.

⑮ **TREBLE (–, +) buttons*NOTE**
Use to adjust tone. These buttons operate in stereo mode only.

⑯ **DD button (page 28)**

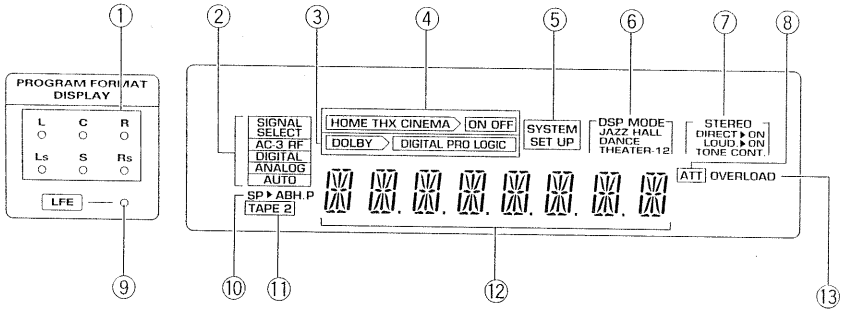
⑰ **STEREO button (page 27)**

⑱ **LIST IN button (page 35)**

⑲ **Select/Adjust buttons**

*** NOTE:**
These operation buttons do not function during AC-3 input.

Display



① **PROGRAM FORMAT display**
When playing back in the Dolby Digital (AC-3) mode, the indicator of the channels set for the playback source lights.

② **SIGNAL SELECT indicators**
The input signal format currently selected will light.

③ **DOLBY DIGITAL and PRO LOGIC indicators**
"DOLBY" lights when the Dolby Surround mode is ON. There are two Dolby Surround modes - Dolby Digital (AC-3) and Dolby Pro Logic. "DOLBY" and "DIGITAL" light during Dolby Digital, and "DOLBY" and "PRO LOGIC" light when played back in Dolby Pro Logic.

④ **HOME THX CINEMA mode indicators**
Light when HOME THX CINEMA mode is selected.

⑤ **SYSTEM SET UP indicator**
Lights when SYSTEM SET UP mode is selected.

⑥ **DSP MODE indicators**
Light when DSP MODE is selected.

⑦ **STEREO indicators**
Light when STEREO mode is selected.

⑧ **ATT indicator**
Lights when INPUT ATT is ON.

⑨ **LFE indicator**
LFE lights when the LFE (Low Frequency Effects) channel is set for the playback source with Dolby Digital. The LFE indicator also lights when LFE signals are input.

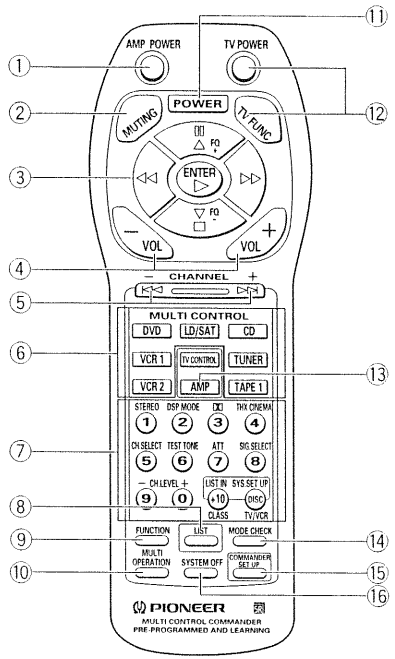
⑩ **Speakers A, B, H.P indicators**
The indicator of the speaker system (A, B) selected will light. "H.P" lights when using a headphone.
When you use headphones, both SPEAKERS A and B will switch OFF.

⑪ **TAPE 2 indicator**
Lights when TAPE 2 MONITOR is ON.

⑫ **CHARACTER display**

⑬ **OVERLOAD indicator**
This lights when analog signal input level is excessive. When it flashes, switch ATT ON using the remote control to reduce the strength of the input signal.

Remote control unit



① **AMP (Amplifier) POWER button**

② **MUTING button**
Press to mute the volume.

③ **[When set to AMP (OPERATIONS)]**
△, ▽, ◁, ▷, ENTER (Select/Adjust) buttons.
[When set to other than AMP (OPERATIONS)]
II (Pause), □ (Stop), ◁◁ (Rewind), ▷▷ (Fast Forward), ▷ (Play) buttons.
II, □ operate as FQ + (Frequency up) and FQ – (Frequency down) buttons in TUNER function.

④ **VOL (–, +) buttons**

⑤ **[TV, VCR Operations]**
Selects the TV broadcast channel.
[CD, LD, DVD operations]
|◁◁, ▷▷| (Chapter/Track Search) buttons.
[TUNER operations]
Station up/down buttons.

⑥ **MULTI CONTROL function buttons**
Use to set and operate the MULTI CONTROL buttons, and switch the function.
TV CONTROL: Press to operate TV.

⑦ **Number/Amplifier setting buttons**
[When setting AMP (operations)]
STEREO: Switches the STEREO mode.
DSP MODE: Switches the DSP surround effects. The DSP MODE does not function while a Dolby Digital (AC-3) program source is being played back.
DD: Switches the Dolby Surround mode.
THX CINEMA: Switches the THX mode.
CH. SELECT: Selects the speaker that you want to adjust.
TEST TONE: When turned ON (while in SYSTEM SET UP mode), volume balance adjustment signals are output in turn from each of the speakers and can be adjusted.
ATT: Operates at ANALOG signal input. When turned ON when the sound is unstable due to excessive input levels, the input signal level drops so that the sound becomes easier to listen to.
SIG. SELECT: Selects an input signal in the LD, DVD function.
CH. LEVEL: Adjusts the volume level of the speaker selected with the CH. SELECT.
LIST IN: Enters the LIST input menu in the CD function.
SYS. SET UP: Enters the SYSTEM SET UP mode.
[TUNER operations]
Number buttons: Use for setting the frequency value when the station call is selected or during direct access.
CLASS: Switches the CLASS number.
[VCR operations]
TV/VCR: Switches between TV and VCR.
[CD Operations]
DISC: Use to select a DISC number.

⑧ **LIST button (page 37)**
Displays the LIST menu when CD is selected with the INPUT SELECTOR.

⑨ **FUNCTION button**
Switches the function.

⑩ **MULTI OPERATION button (page 23)**
Use to set the multi operation.

⑪ **POWER button**
Turns ON/OFF the power of products other than this unit.

⑫ **TV buttons (page 34)**

⑬ **AMP button**
Press when using this button in amplifier setting mode.

⑭ **MODE CHECK button (page 34)**

⑮ **COMMANDER SET UP button (page 19)**
Use to control and learn operations of other manufacturers' products, and set multi operation functions.

⑯ **SYSTEM OFF button (page 25)**
Use to turn OFF the power of all products connected to the main unit.

CONNECTING PRODUCTS

* The size of characters and terminal positions in the figures may differ from those on the actual product.

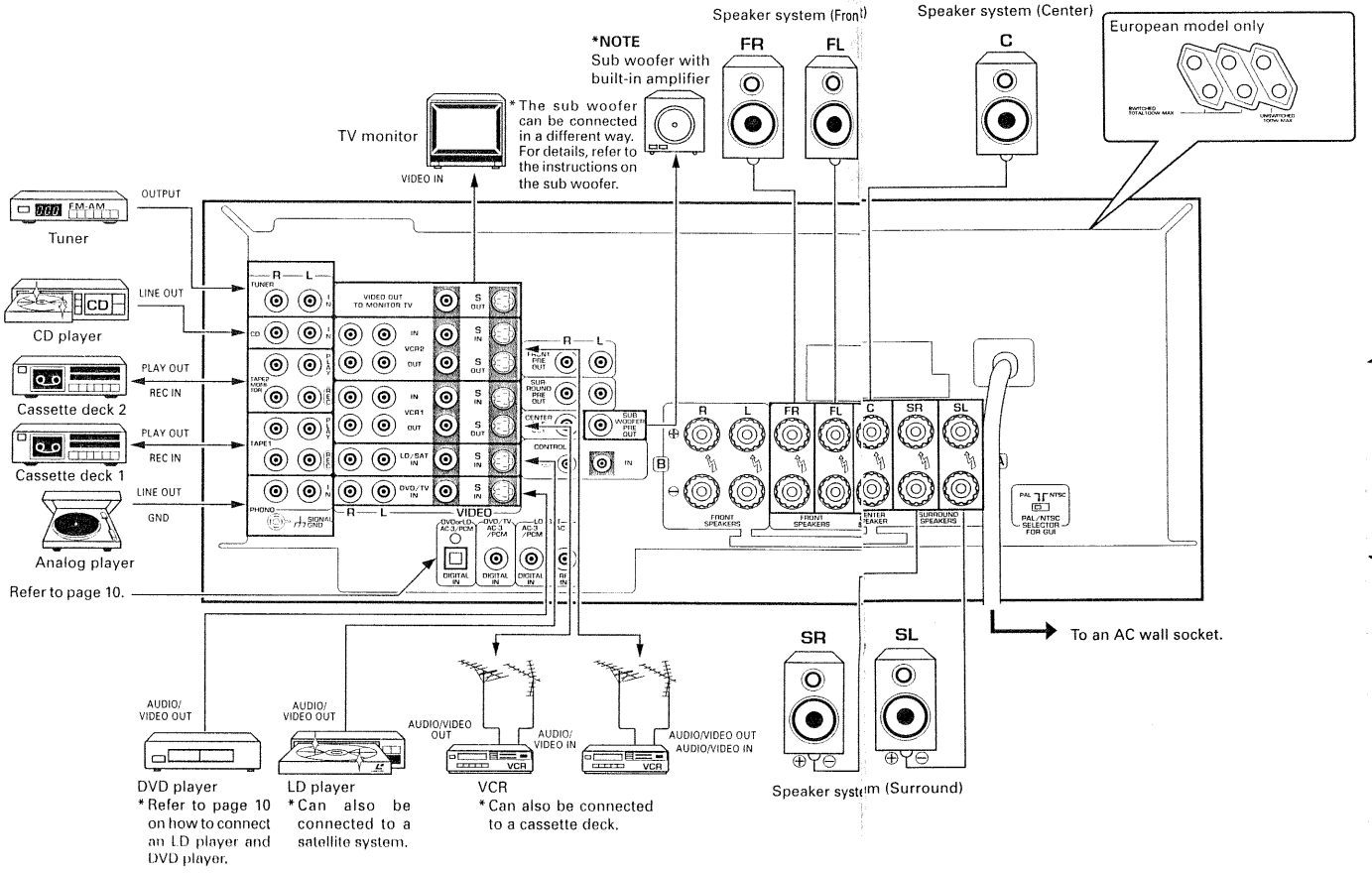
When connecting or changing products, be sure to turn OFF the POWER switch, and disconnect the power cord from the wall outlet.

POWER-CORD CAUTION

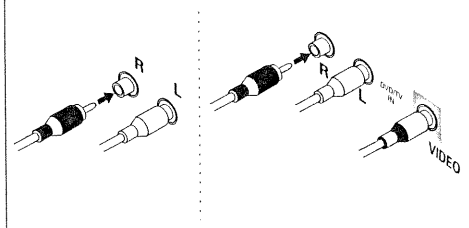
Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

*** NOTE:**
If you set the PLAYBACK MODE (page 27) to STEREO, and set the FRONT channel to "Large" during SPEAKER SETTING (page 13), no signal is output from the SUB WOOFER PRE OUT terminal. However, during AC-3 input, a signal is output when the LFE indicator is lit.

Illustration shows U.K. model.



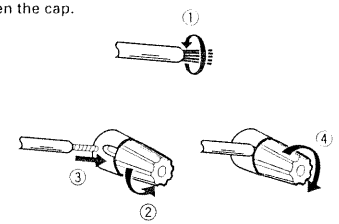
■ Input/output plugs



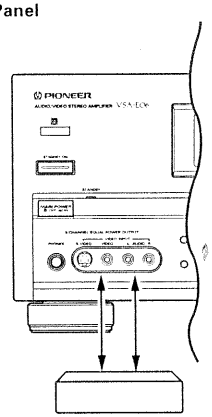
Connect the white plug to L, red plug to R and yellow plug to VIDEO. Be sure to insert completely.

■ Speaker terminal

① Twist the wire tip.
② Loosen the cap.
③ Insert the wire.
④ Tighten the cap.



■ Front Panel



Video products such as a video camera, etc.
Set the INPUT SELECTOR to VIDEO before using.

■ PAL/NTSC switch

This unit uses the TV screen to operate the system. Set the PAL/NTSC switch to match your TV's color system. The screen will be unclear if the color system does not match.

memo

- Use nominal impedance of 6 Ω to 16 Ω for the speaker system.
- Sound is output from speakers connected to FR, FL, C, SR, or SL terminals if the SPEAKERS A button on the front panel is set to ON.
  If you want sound from speakers connected to the R and L terminals, set the SPEAKERS B button to ON.

For European model only:
AC OUTLETS
[SWITCHED TOTAL 100 W MAX]
Power supplied through this outlet is turned on and off by the amplifier's POWER switch. Total electrical power consumption of connected products should not exceed 100 W.

[UNSWITCHED 100 W MAX]
Power flows continually to this outlet, regardless of whether the amplifier is switched ON or OFF. Electrical power consumption of the connected products should not exceed 100 W.

memo

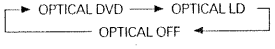
- This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.
- Do not connect appliances with high power consumption such as heaters, irons or television sets to these AC OUTLETS in order to avoid overheating and fire risk. This can also cause the amplifier to malfunction.

CAUTION:
DO NOT CONNECT A MONITOR OR TV SET.

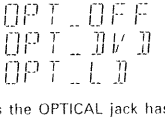
DVD or LD AC-3/PCM jacks

You can use the OPTICAL jack as a digital input for an LD player, a DVD LD player, or a DVD player.
Use it as a player's DIGITAL output jack if the player has only an OPTICAL jack.
Connect the player's OPTICAL output (DIGITAL OUT) jack to this unit's OPTICAL jack, then select LD or DVD input with the OPTICAL button on the front panel.
This sets the OPTICAL jack as the DIGITAL input jack for the selected function (LD or DVD), while at the same time making the COAXIAL jack (DIGITAL IN pin jack) of the LD or DVD ineffective.

OPTICAL button operation
The initial setting is OPTICAL OFF.
Each time you press the button, the setting changes as follows:



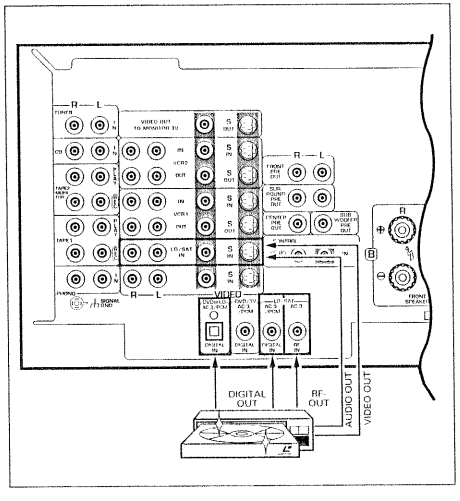
The FL display shows:



OPTICAL LD means the OPTICAL jack has been selected to function as an LD DIGITAL input terminal. (The same applies to OPTICAL DVD.)
OPTICAL OFF means the OPTICAL jack has not been selected to function as either an LD or DVD DIGITAL input jack (in other words, COAXIAL is selected for both LD and DVD).

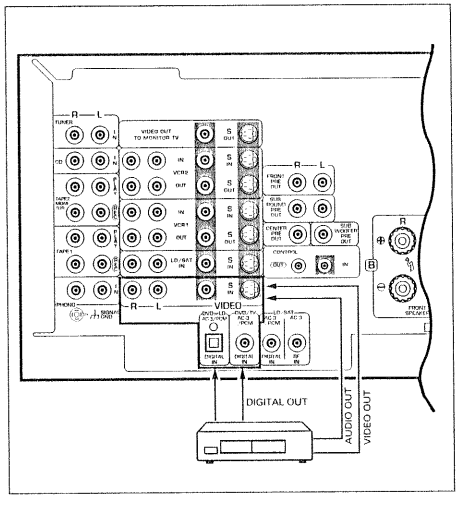
Connecting a DVD LD player, LD player

Connect the DVD LD player or LD player with AC-3 RF OUT as shown below.



Connecting a DVD player

Connect the DVD player as shown below.

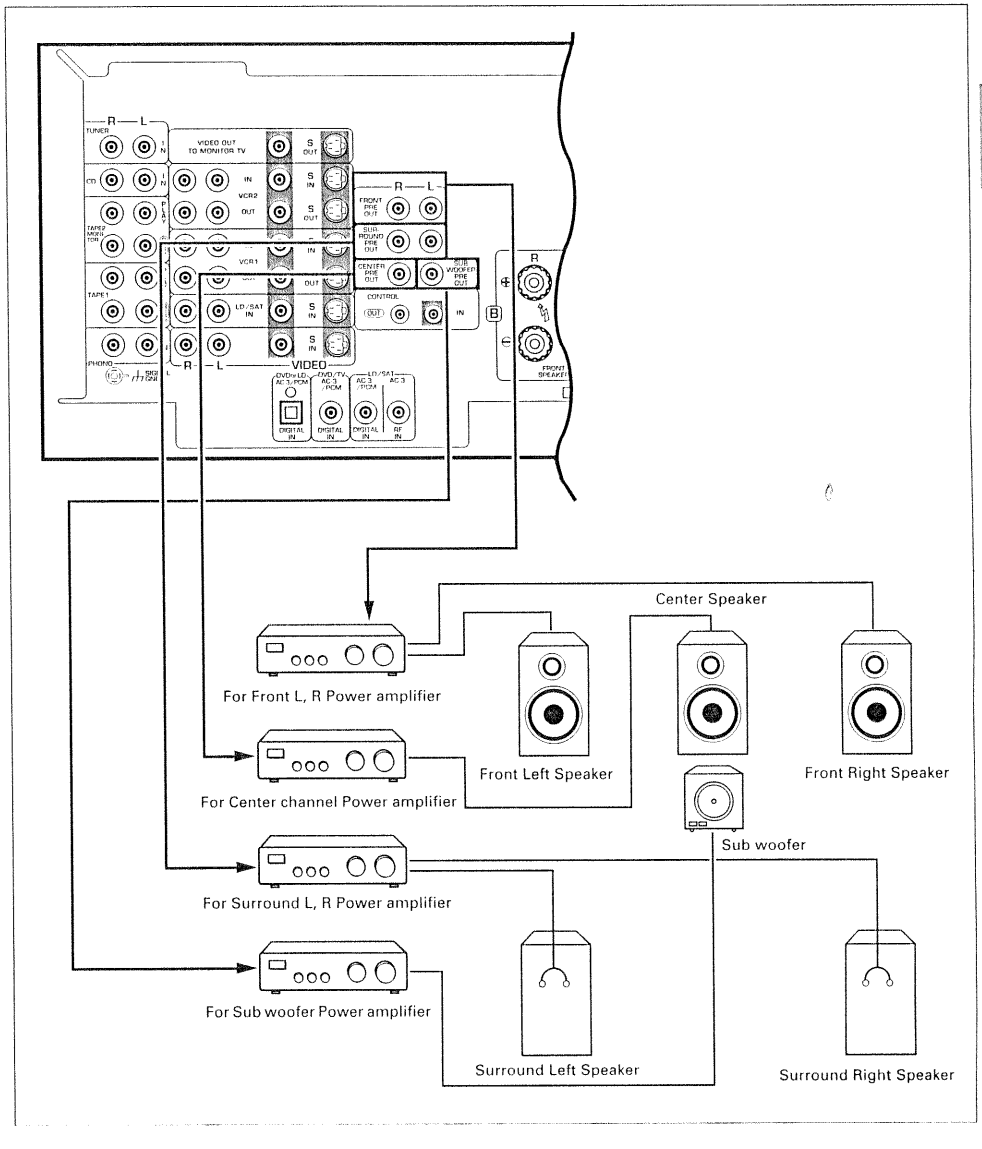


memo

Signals input through the DIGITAL or RF inputs are not output through the REC output.

When using the unit with another power amplifier

When combined with another power amplifier, this unit can be used as a preamplifier.
In this case, do not connect speakers to this unit's speaker terminals.



GUI (Graphical User Interface)

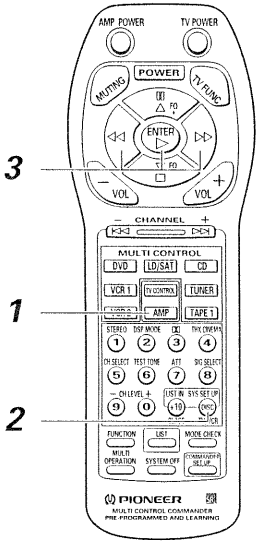
GUI is an operating system where you can use your TV screen to control system operations. You can perform operations simply by moving the cursor ( ) to a desired on-screen button, and then pressing the ENTER button.

SYSTEM SET UP

You can customize this unit to achieve optimum sound field reproduction from your home theater system. Perform these settings when using the unit for the first time or when using a different speaker system.

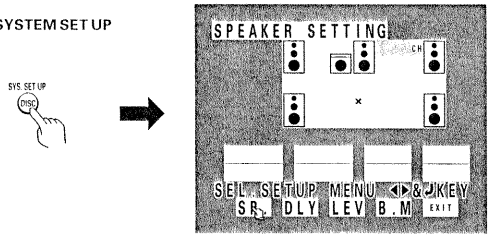
memo

Switch power to the TV and amplifier ON.

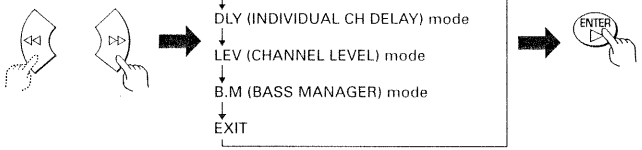


1. **Select the AMP button to enable amplifier operation.**

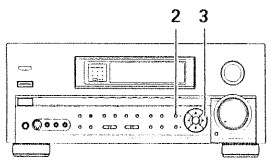
2. **Set the SYSTEM SET UP mode.**



3. **Select a setting mode.**



Move the cursor to the desired setting mode, and press the ENTER button. For details concerning each of the setting modes, refer to pages 13 to 18.



■ Operating with the main unit

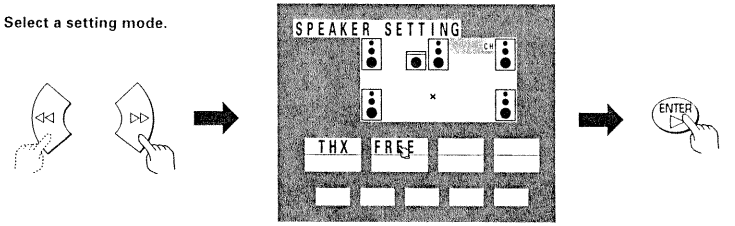
You can perform operations on the main unit in the same way as when using the remote control. (When operating on the main unit, there is no need to select AMP operation.)

ⓘ SPEAKER SETTING mode

Select the appropriate speaker setting for each speaker system channel.

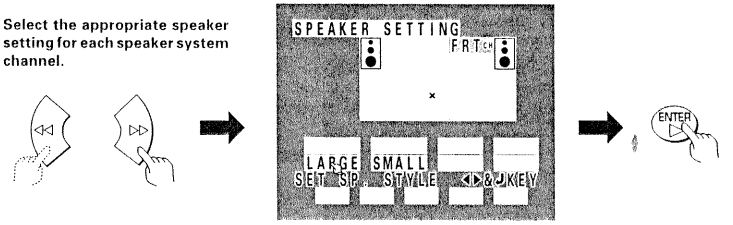
1. **Select the SPEAKER SETTING mode.** ➡ Refer to "SYSTEM SET UP" (page 12).

2. **Select a setting mode.**



Select from two modes:
THX: If you have a complete set of THX speakers this mode will automatically make the correct choices. (Go to step 4)
FREE: This is the mode for setting each speaker system channel in turn. (Go to step 3)

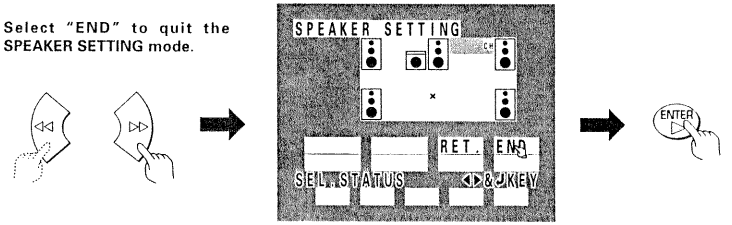
3. **Select the appropriate speaker setting for each speaker system channel.**



FRONT channel (Large, Small)
↓
CENTER channel (Large, Small, No)
↓
SURROUND channel (Large, Small, No)
↓
SUB WOOFER channel (No, Yes)

When the FRONT channel setting is Small, you cannot set the CENTER and SURROUND channels to Large, or the SUB WOOFER to No.

4. **Select "END" to quit the SPEAKER SETTING mode.**



If you want to change settings, select "RET." and press the ENTER button.
Quitting the SPEAKER SETTING mode returns you to the SYSTEM SET UP mode display.

memo

- Initially, the speakers are set as follows in the FREE mode.
  FRONT: Large, CENTER: Large, SURROUND: Large, SUB WOOFER: Yes

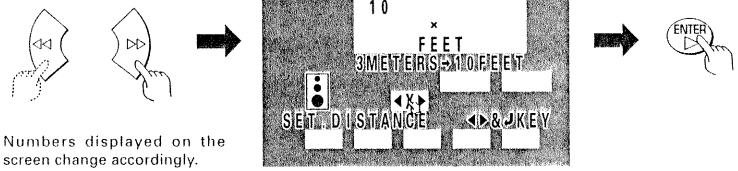
(2) INDIVIDUAL CH DELAY mode

Normally, speakers are placed at different distances from the listening position. This means that the sound from these speakers will not coincide. To prevent this, use the INDIVIDUAL CH DELAY mode to adjust the delay time for sound from each speaker.

1. Select the INDIVIDUAL CH DELAY mode. ➡ Refer to "SYSTEM SET UP" (page 12).

2. Set the distance of each speaker from the listening position (in feet).

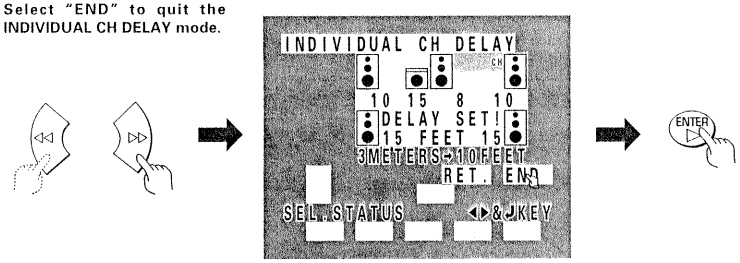
*The delay time adjust automatically



Numbers displayed on the screen change accordingly.

FRONT LEFT channel
↓
CENTER channel
↓
FRONT RIGHT channel
↓
SURROUND RIGHT channel
↓
SURROUND LEFT channel
↓
SUB WOOFER channel

3. Select "END" to quit the INDIVIDUAL CH DELAY mode.



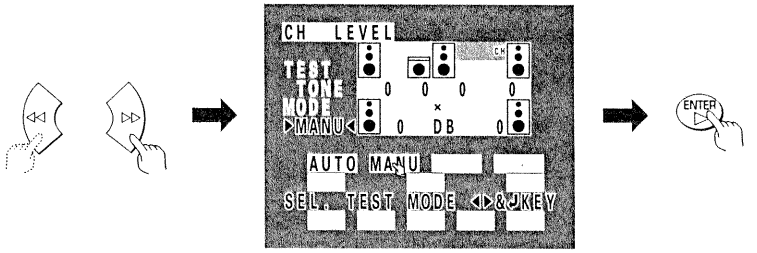
If you want to change settings, select "RET." and press the ENTER button.
Quitting the INDIVIDUAL CH DELAY mode returns you to the SYSTEM SET UP mode display.

(3) CHANNEL LEVEL mode

This lets you achieve the ideal volume (sound pressure) level balance for your listening position. While listening to the test tone, you can adjust the volume level of each speaker channel until they are the same.

1. Select the CHANNEL LEVEL mode. ➡ Refer to "SYSTEM SET UP" (page 12).

2. Select a TEST TONE mode.

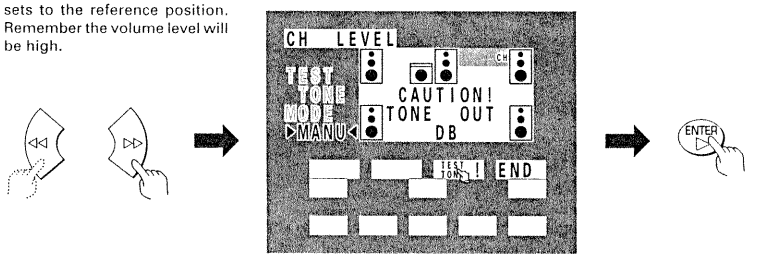


Select from two modes:
AUTO: The test tone is output from each of the speaker channels in order. When the test tone is output from the desired speaker, press the Select/Adjust (◁, ▷) buttons to set the volume level.
MANU: This lets you set the volume level for each speaker channel, one at a time in order.

3. Switch on the test tone.

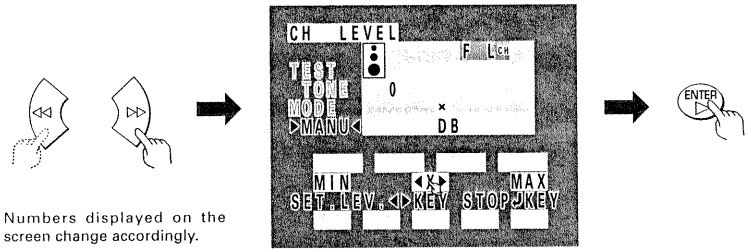
memo

Switch the test tone ON, and the master volume automatically sets to the reference position. Remember the volume level will be high.



To quit channel volume level adjustment, select "END".
To quit when the test tone is being output, press the SYS. SET UP button.

4. **Set the volume level of each of the channels.**

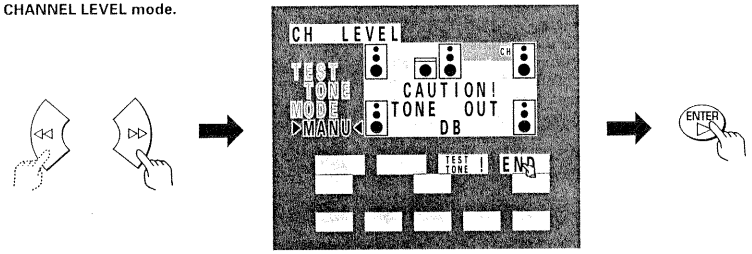


Numbers displayed on the screen change accordingly.

FRONT LEFT channel
↓
CENTER channel
↓
FRONT RIGHT channel
↓
SURROUND RIGHT channel
↓
SURROUND LEFT channel
↓
SUB WOOFER channel

If you select "AUTO" in the TEST TONE mode, press ENTER after setting all channel levels.

5. **Select "END" to quit the CHANNEL LEVEL mode.**



If you want to change settings, select "TEST TONE!" and press the ENTER button.
Quitting the CHANNEL LEVEL mode returns you to the SYSTEM SET UP mode display.

memo

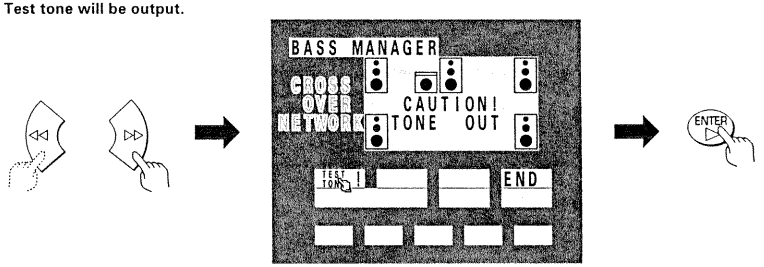
- Note that the test tone is output at a high volume level.
- Initially, the channel levels are set to 0 dB.
- To insure accuracy of the channel level, it is advised to utilize a Sound Pressure Level (SPL) meter and to adjust each channel to 75 dBC SPL (Slow).
- Note that the volume of the sound from the sub-woofer tends to sound lower than it actually is.
- To display the current CHANNEL LEVEL settings, move the cursor to "LEV." in the SYSTEM SET UP menu display, and press the CH.LEVEL button on the remote control. CHANNEL LEVEL indications are displayed on the main unit's display and on the TV screen.

④ BASS MANAGER mode

Dolby Digital signals contain many ultra-low frequency components. A limiter operates to prevent input of signals that exceed your system's ultra-low range signal reproduction capabilities.
While listening to the test tone, set the limiting value on the limiter for the low frequency output channel speaker. (The limit of setting is –24 dB.) Also set the CROSSOVER NETWORK value.

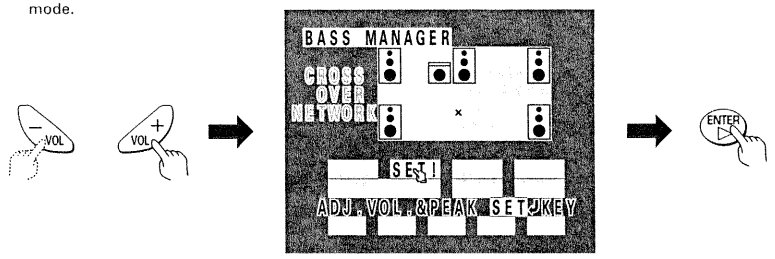
1. **Select the BASS MANAGER mode.** → Refer to "SYSTEM SET UP" (page 12).

2. **Test tone will be output.**



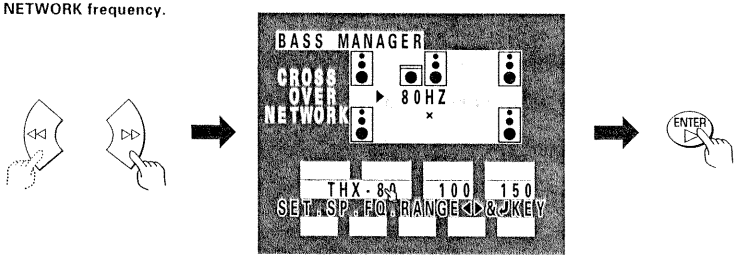
If you want to quit, select "END".
If you want to quit while a test tone is output, press the SYS. SET UP button.

3. **Set the limiting value.**
* The test tone is output from the low frequency channel set in the SPEAKER SETTING mode.



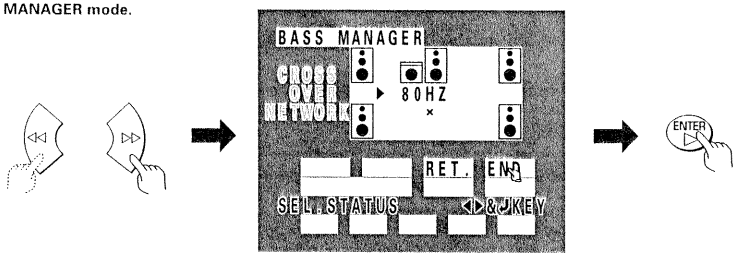
Raise the volume level, and press the ENTER button at the point before the test tone starts distorting.

4. Set the CROSSOVER NETWORK frequency.



When the bass range of speakers set at SMALL is divided to other speakers with bass functions in the ① SPEAKER SETTING mode, CROSSOVER NETWORK sets how much sound (below how many Hz) is to be divided to the other speakers during playback.

5. Select "END" to quit the BASS MANAGER mode.



If you want to change settings, select "RET." and press the ENTER button.
Quitting the BASS MANAGER mode returns you to the SYSTEM SET UP mode display.

memo

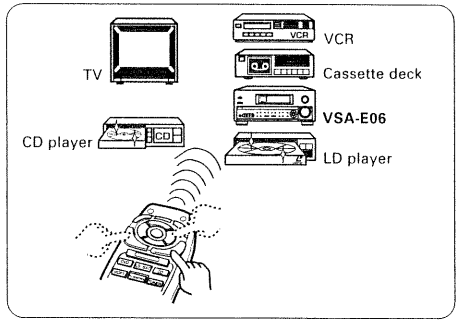
- The recommended CROSSOVER NETWORK frequency when operating with THX speakers is 80 Hz.
- Initially, the CROSSOVER NETWORK frequency is set to 80 Hz.

COMMANDER SET UP (Remote control unit only)

With the provided remote control unit, the following operations can easily be performed.

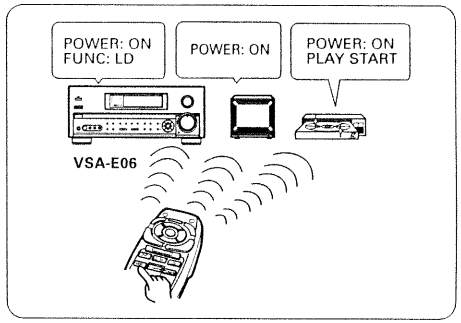
■ Control of other products

Your PIONEER products and other manufacturers' products (VCR, TV, LD player, CD player, etc.) can be remote controlled. (This requires the learning and setting of the remote control codes of other manufacturers' products.)



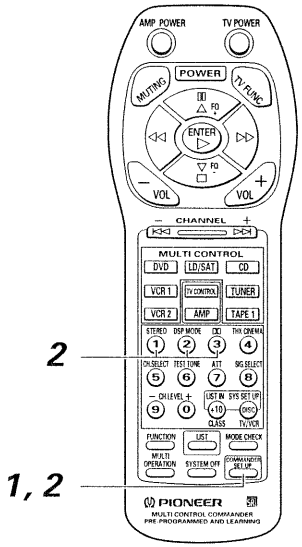
■ Multi Operation

Performing multi operation settings using this unit's remote control enables several products to be operated easily.

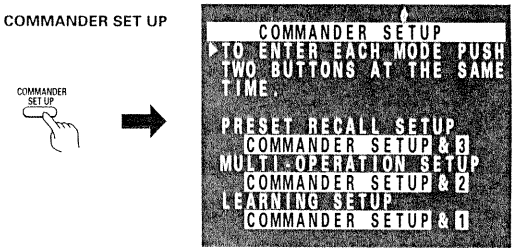


memo

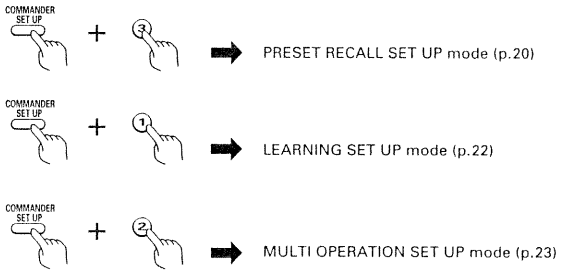
Switch power to the amplifier and TV ON.



1. Set the COMMANDER SET UP mode.


COMMANDER SET UP
COMMANDER SETUP
TO ENTER EACH MODE PUSH TWO BUTTONS AT THE SAME TIME.
PRESET RECALL SETUP
COMMANDER SETUP & 3
MULTI OPERATION SETUP
COMMANDER SETUP & 2
LEARNING SETUP
COMMANDER SETUP & 1

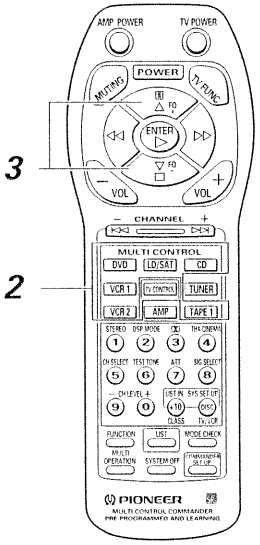
2. Select a setting mode.



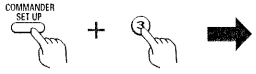
To quit the COMMANDER SET UP mode, press the COMMANDER SET UP button once more.

(1) PRESET RECALL SET UP mode

The remote control unit can be used to operate your PIONEER products and other manufacturers' audio/video products (VCR, TV, LD player, CD player, etc.).
Perform the following procedures to enable operation of other manufacturers' products.



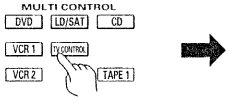
1. **Select the PRESET RECALL SET UP mode.**



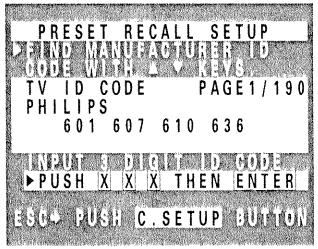
* Multi control section of the remote control unit will blink.

PRESET RECALL SETUP
▶RECALLS REMOTE CODES FOR EACH DEVICE BY IN-
PUTTING THE 3 DIGIT ID
CODE USING THE 0-9KEYS.
▶SELECT THE DEVICE,PRESS
A MULTI CONTROL BUTTON.
▶PUSH EX. DVD
ESC◀ PUSH C.SETUP BUTTON

2. **Select a function to be set.**

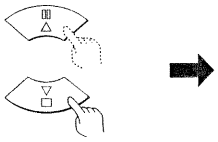


* The function button selected lights.



* Displays the manufacturer's name and codes.

3. **Select a manufacturer's name and code.**



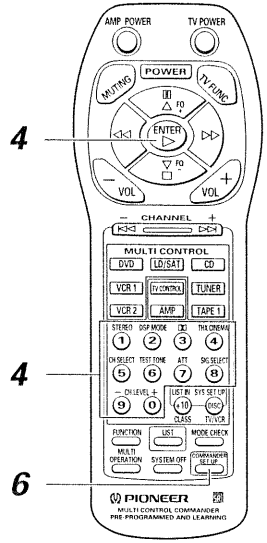
Each time the button is pressed, a different preset manufacturer name and codes will be displayed.

When the △ button is pressed, the manufacturer name and codes are displayed in the reverse order.

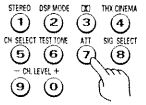
memo

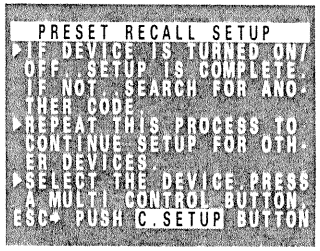
When performing PRESET RECALL SET UP, the items that can be set for each function are as follows:

- DVD ..... DVD or TV
- LD/SAT ..... LD or SAT
- CD ..... CD
- VCR 1 ..... VCR
- VCR 2 ..... VCR
- TAPE 1 ..... TAPE
- TV CONTROL ..... TV



4. **Point the remote control unit towards the product to be operated, and input the three-digit code number displayed in step 3.**
* Refer to the "LIST OF MANUFACTURER CODES" on pages 42 to 44.





When a three-digit code number is input, the power ON/OFF signal will be output from the remote control unit. If the power of the products turn ON or OFF according to this signal, it indicates that the product has been set properly. If the power does not turn ON/OFF, input another code or use the LEARNING SET UP.

■ When there are several manufacturer codes for one manufacturer

Some manufacturers use several remote control signals. In such cases, the products may not operate even if the manufacturer code displayed at the beginning is input. If this happens, enter a different manufacturer code.

5. **Repeat steps 2 to 4, and set other functions.**

6. **Quit the PRESET RECALL SET UP mode.**

Returns to normal operations.
* Multi control section of the remote control unit will go off.

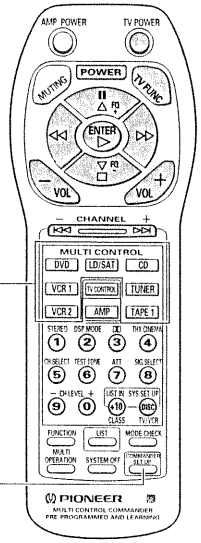
memo

When operating a PIONEER DVD LD player with the LD/SAT function, set the manufacturer code to "102" in the PRESET RECALL SET UP mode.

② LEARNING SET UP mode

If your equipment does not operate in the preset mode, learn its remote control signals so that it can be operated. If set properly in the preset mode, remote control signals of additional operations can be set by learning (those not shown on pages 32 to 34).

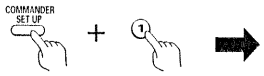
Perform the following operations to prepare the remote control for learning.

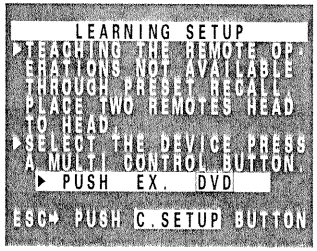


2

7

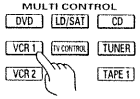
1. Select the LEARNING SET UP mode.

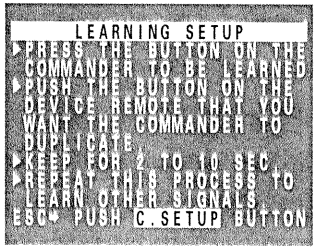



LEARNING SETUP
▶TEACHING THE REMOTE OPERATIONS NOT AVAILABLE THROUGH PRESET RECALL. PLACE TWO REMOTES HEAD TO HEAD.
▶SELECT THE DEVICE PRESS A MULTI CONTROL BUTTON.
▶ PUSH EX. DVD
ESC▶ PUSH C.SETUP BUTTON

* Multi control section of the remote control unit will blink.

2. Select a function to be learned.

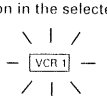



LEARNING SETUP
▶PRESS THE BUTTON ON THE COMMANDER TO BE LEARNED
▶PUSH THE BUTTON ON THE DEVICE REMOTE THAT YOU WANT THE COMMANDER TO DUPLICATE.
▶KEEP FOR 2 TO 10 SEC.
▶REPEAT THIS PROCESS TO LEARN OTHER SIGNALS.
ESC▶ PUSH C.SETUP BUTTON

* Only the multi control button selected blinks.

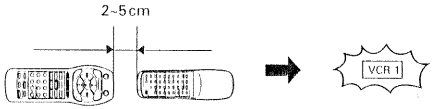
3. Select a button of the function to be learned using the remote control unit.
* Select from the gray buttons in the left figure of the remote control unit.

The remote control unit is ready to memorize the operation in the selected button.



* The multi control button of the remote control unit stops blinking and lights.

4. Face the remote control units at each other. Press the button of the operation of the other manufacturer's product to be learned. (Press until the multi control button blinks.)



The multi control button starts blinking and then lights once more.

memo

- The TV POWER, TV FUNC, VOL – and + buttons can only be used for learning when TV CONTROL is selected.
- When TV CONTROL has been selected, memorize the same remote control signal into both TV POWER and POWER.

5. Press the other manufacturer's remote control button once more.
* When learned, the multi control button of the remote control unit starts blinking.

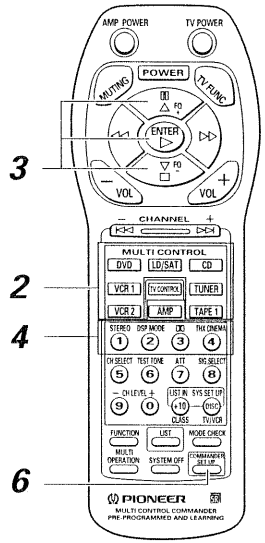
6. Repeat steps 2 to 5, and learn other required functions.

7. Quit the LEARNING SET UP mode.

Return to normal operations.
* All multi control buttons will go off.

③ MULTI OPERATION SET UP mode

The power of the products connected to this unit can be turned ON/OFF with its remote control unit, and operated with the MULTI OPERATION button of this remote control unit.



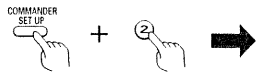
3

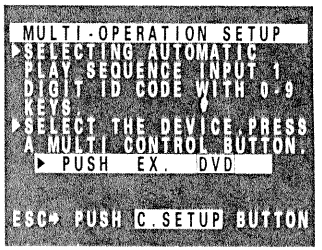
2

4

6

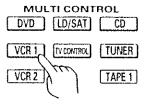
1. Select the MULTI OPERATION SET UP mode.

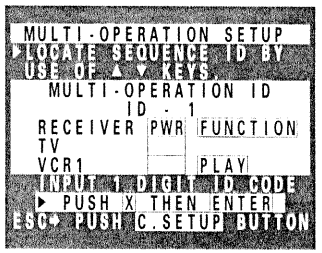



MULTI-OPERATION SETUP
▶SELECTING AUTOMATIC PLAY SEQUENCE INPUT 1 DIGIT ID CODE WITH 0-9 KEYS.
▶SELECT THE DEVICE PRESS A MULTI CONTROL BUTTON.
▶ PUSH EX. DVD
ESC▶ PUSH C.SETUP BUTTON

* Multi control section of the remote control unit blinks.

2. Select a desired function.





* Only the multi control button selected lights.

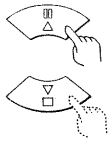
memo

- For the DVD player, CD player, VCR 1, VCR 2, and cassette deck, the PLAY signals are output from this remote control unit.

3

INTIAL SET UP

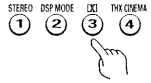
3. Select the ID number of the operation you want to program.



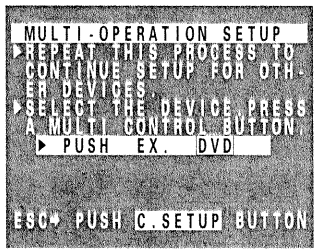
Each time you press the button, a different ID number and operation are displayed.
Pressing the △ button displays ID numbers and operations in reverse order.

* Multi control section of the remote control unit blinks.

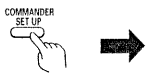
4. Input the ID number (1 – 4).



5. To continue settings, repeat steps 2 and 3, and set each multi operation function.


MULTI-OPERATION SETUP
▶REPEAT THIS PROCESS TO CONTINUE SETUP FOR OTHER DEVICES.
▶SELECT THE DEVICE PRESS A MULTI CONTROL BUTTON.
▶ PUSH EX. DVD
ESC▶ PUSH C.SETUP BUTTON

6. Quit the MULTI OPERATION SET UP mode.



Return to normal operations.
* Multi control section will go off.

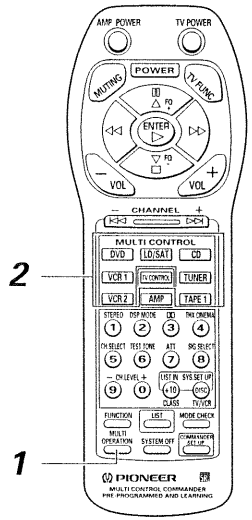
■ **Multi Operation Table**

ID Number	AMPLIFIER POWER	→	TV POWER	→	SELECTED DEVICE POWER	→	▶
1	YES	→	NO	→	NO	→	YES
2	YES	→	NO	→	YES	→	YES
3	YES	→	YES	→	NO	→	YES
4	YES	→	YES	→	YES	→	YES

YES: Activated NO: Not activated

OPERATING REMOTE CONTROL FUNCTIONS SET

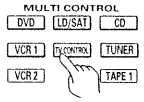
① Performing Multi Operation



1. Enter the multi operation mode.

All multi control buttons of the remote control unit blink.

2. Select a desired function.

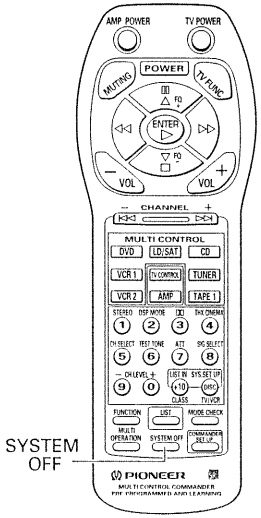


The power of this unit is turned ON, the function switches, and the power of the selected product turns ON/OFF according to the settings on page 24. (Some products may start playback after this, such as a DVD player, CD player, LD player, VCR 1, VCR 2 and cassette deck.)

memo

The power of this unit does not turn on when TV CONTROL is selected.

② Turning OFF the power of the system



Turn OFF the power of the system including this unit.

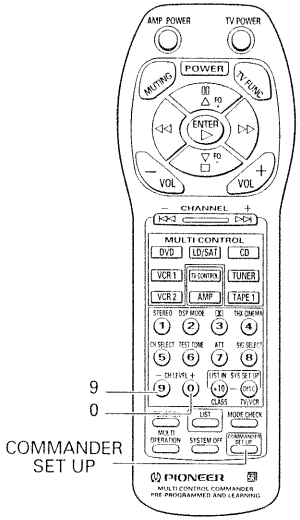
Products will be turned OFF according to the multi operation settings.

Example:
When you are using the remote control unit for VCR 1 operation, and VCR 1 is set to "4" in the Multi Operation table on page 24, this unit, TV and VCR 1 will turn OFF by this operation.

memo

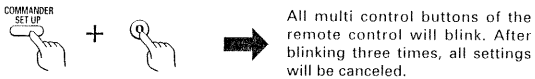
- In some products that have been turned OFF already, pressing the SYSTEM OFF button may turn ON the power of those products.
- All the PIONEER products will turn OFF.

③ Canceling remote control settings



■ How to cancel all settings that have been set or learned.

Cancel the setting.

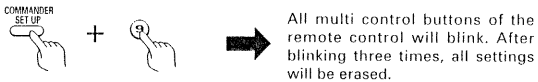


All multi control buttons of the remote control will blink. After blinking three times, all settings will be canceled.

While pressing the COMMANDER SET UP button, press (0) for more than 3 seconds.

■ How to erase the settings that have been learned.

Erase the learned contents.



All multi control buttons of the remote control will blink. After blinking three times, all settings will be erased.

While pressing the COMMANDER SET UP button, press (9) for more than 3 seconds.

Before operating, set this unit's MAIN POWER switch to the ON (▬) position.

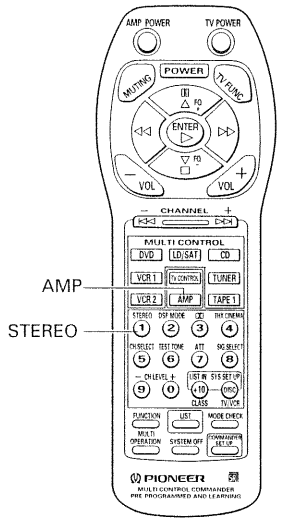
SELECT THE PLAYBACK MODE

Before listening to a source, select the playback mode.
- STEREO mode
- SURROUND mode
  - ① DSP mode
  - ② DOLBY SURROUND mode
  - ③ HOME THX CINEMA mode

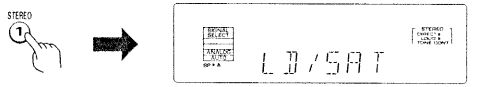
First, press the AMP button and select the amplifier setting mode. Be sure to press the AMP button before selecting each mode.

STEREO mode

If you press the STEREO button, the amplifier provides stereo sound.
At this time, you can use DIRECT, LOUDNESS, BASS and TREBLE. However, you cannot switch between these settings during AC-3 signal input.

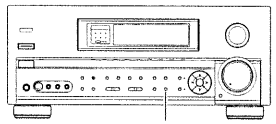


Switch to STEREO mode.



■ Operating with the main unit

Press the STEREO button.



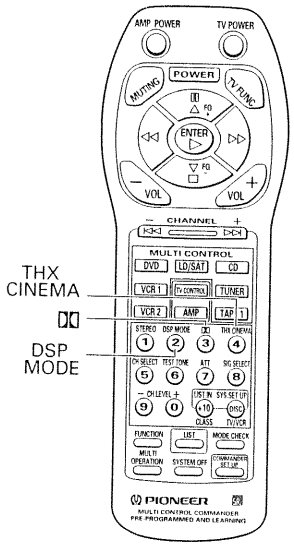
memo

- When a Dolby Digital (AC-3) program source is input, PROGRAM FORMAT display blinks. At this time, select the DOLBY SURROUND mode or HOME THX CINEMA mode.
- THX is only used for a movie that was originally made for the movie theater.

SURROUND mode

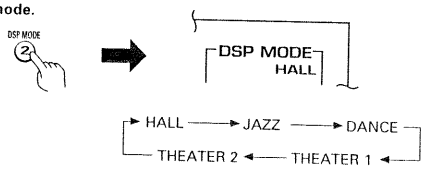
memo

- When the SURROUND mode is selected, SPEAKERS A and B cannot be ON simultaneously. If you select the SURROUND mode when both SPEAKERS A and B are ON, SPEAKERS B switch OFF.
- When SPEAKERS B only are ON, sound is output from speakers connected to SPEAKERS B L and R terminals only. There is no sound from the surround speakers or center speaker.
- When a Dolby Digital Soundtrack is played back in the DOLBY mode or HOME THX CINEMA mode, the Dialog Normalization mode of the amplifier is activated. The Dialog Normalization, a standard function of Dolby Digital, regulates the dialog level of the soundtrack in relation to the other channels. The amplifier is set to a preset level (a standard setting that in most cases will be exactly what is recorded on the software). However if this preset level does not match the level on the software, then an indication will appear in the display area. This indication will advise you of the difference between the Dialog Normalization and the THX reference level, and advise you how much to adjust the volume control to insure the playback is at the THX Reference Level.



① DSP mode

Switch to DSP mode.



■ Operating with the main unit

Press the DSP MODE button.

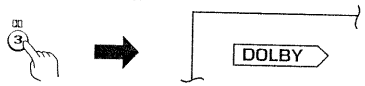
memo

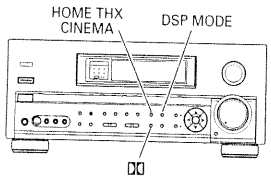
- When a Dolby Digital (AC-3) program source is input, PROGRAM FORMAT display blinks. At this time, switch to DOLBY SURROUND mode or HOME THX CINEMA mode.
- THX is only used for a movie that was originally made for the movie theater.

② DOLBY SURROUND mode

When DOLBY SURROUND mode is ON, the Dolby Pro Logic Surround and Dolby Digital (AC-3) are automatically switched according to the input signal, and playback is performed.

Switch to DOLBY SURROUND mode.





■ Operating with the main unit

Press the DD button.

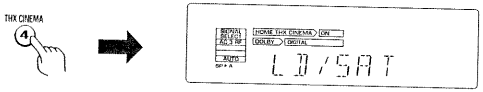
memo

When connecting an LD player or DVD player with the AC-3 RF output as shown in the figure on page 10 and playing back an LD or DVD disc in DIGITAL, the unit is switched to Dolby Digital (AC-3) automatically.

③ HOME THX CINEMA mode

When HOME THX CINEMA mode is ON, the Dolby Pro Logic Surround and Dolby Digital (AC-3) are automatically switched according to the input signal, and playback is performed.

Switch to HOME THX CINEMA mode.



■ Operating with the main unit

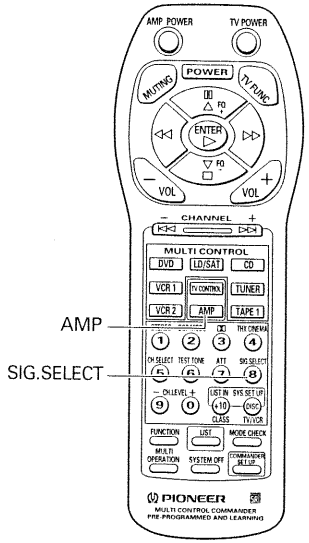
Press the HOME THX CINEMA button.

memo

THX is only used for a movie that was originally made for the movie theater.

SWITCHING THE INPUT SIGNAL

The functions DVD and LD have a digital input terminal and AC-3 RF input terminal (LD player only) in addition to the analog input terminal. When the input terminals are connected to the DVD player and LD player output terminals, several input signals will be sent from each player. Use the SIGNAL SELECT button of the remote control to select the input signal. Normally, when set to "AUTO", the SIGNAL SELECT mode will change automatically according to the input signal of the player.



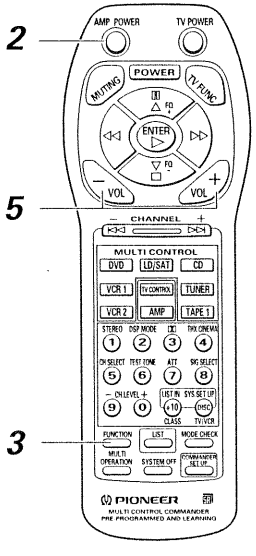
Switch according to the input signal format.

memo

- When set to "AUTO", and several signals such as analog, digital, and AC-3 RF are preset, the signals in order of priority are; AC-3 RF, digital and analog.
- When selecting functions other than the DVD and LD functions, the SIGNAL SELECT will be set to "ANALOG".

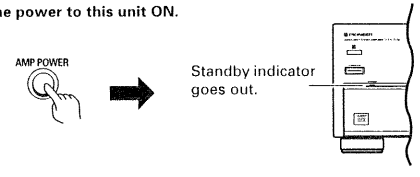
4 OPERATIONS

PLAYBACK

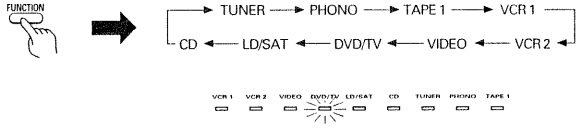


1. **Switch the power to the playback component ON.**
Set this unit's MAIN POWER switch to the ON position.

2. **Switch the power to this unit ON.**



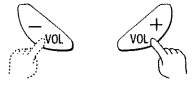
3. **Select the desired playback component.**
- You can directly select sources other than PHONO and VIDEO with the MULTI CONTROL button.
- Switch TAPE 2 MONITOR OFF.

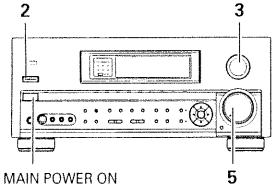


Indicator lights.

4. **Start playback on the component selected in step 1.**

5. **Adjust the volume level.**





■ Operating with the main unit

1. **Switch the power to the playback component ON.**
2. **After setting this unit's MAIN POWER switch to the ON position, press the STANDBY/ON button.**
3. **Turn the INPUT SELECTOR knob to select the playback source.**
4. **Start playback on the component selected in step 1.**
5. **Adjust the volume level.**

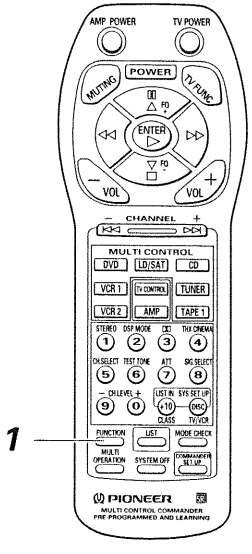
RECORDING

Set the format of the input signal to "ANALOG" referring to "SWITCHING THE INPUT SIGNAL" on page 29.

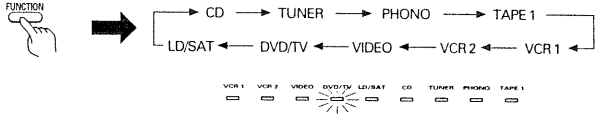
Recording with TAPE 1 or TAPE 2

memo

Turn ON the power of all products to be used.



1. **Select the source to be recorded.**
- Except for PHONO and VIDEO, the sources can directly be selected using the MULTI CONTROL buttons.
- When recording with TAPE 1, TAPE 1 cannot be selected.



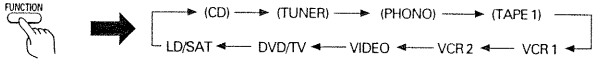
Indicator lights.

2. **Start recording with TAPE 1 or TAPE 2.**

3. **Play back the source to be recorded.**

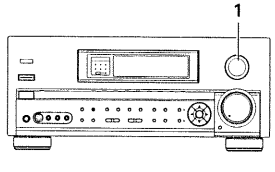
Recording with VCR

1. **Select the source to be recorded.**



2. **Start recording with VCR 1 or VCR 2.**

3. **Play back the source to be recorded.**



■ Operating with the main unit

1. **Select the source to be recorded using the INPUT SELECTOR knob.**
2. **Start recording.**
   - Recording with TAPE 1 or TAPE 2:
     Start recording using cassette deck TAPE 1 or TAPE 2.
   - Recording with VCR:
     Start video recording using VCR.
3. **Play back the source to be recorded.**

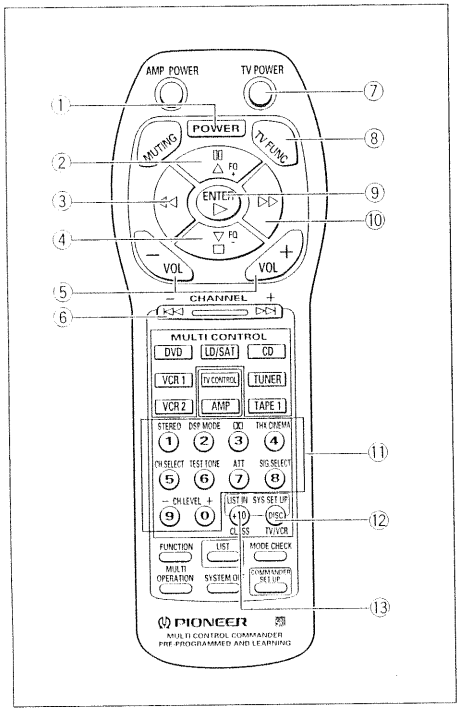
memo

The volume, tone, balance and surround settings of this unit have no effect on the recording signal.

■ Recording Monitor

When recording with TAPE 2, if the recording product connected has a recording monitor function, turning ON the TAPE 2 MONITOR button will enable recording to be carried out simultaneously with playback monitoring (the TAPE 2 indicator lights).

OPERATING OTHER COMPONENTS



When a component bearing other than the PIONEER mark is used, refer to "PRESET RECALL SET UP mode" (page 20) or "LEARNING SET UP mode" (page 22) and perform the COMMANDER SET UP.

LD PLAYER/DVD PLAYER operation

Set the input source to LD/SAT or DVD, and operate as desired using the following buttons.

① **POWER**
Use to turn ON/OFF the LD player or DVD player.

② **II**
Use to pause playback or set still pictures.

③ **◄◄**
Fast reverse playback.

④ **■**
Stops playback.
(With some LD players, the disc table may come out if pressed while stopped.)

⑥ **|◄◄ ►►|**
Chapter (track) search.

⑨ **►**
Starts playback.

⑩ **►►**
Fast forwards playback.

⑪ **Number buttons**
Use to select the chapter (track).

⑫ **(SIDE A/B for LD) (MENU for DVD)**
LD: Switches between sides A and B of the disc.
DVD: Turns ON/OFF the menu screen.

⑬ **+10 button**
Use to select chapter (track) numbers higher than 10.
Example: Chapter (track) 34

+10 CLASS → +10 CLASS → +10 CLASS → ④

SAT (Satellite Tuner) operation

Set the input source to LD/SAT, and operate as desired using the following buttons.

① **POWER**
Use to turn ON/OFF the power of the satellite broadcast tuner.

② **▲**, ③ **◄**, ④ **▼**, ⑩ **►**
Serve as cursor buttons for obtaining information on programs.

⑥ **|◄◄ ►►| (GUIDE)**
Use to turn ON/OFF the program information screen.

⑨ **ENTER**
Use to set the position of the cursor selected using the ②, ③, ④, and ⑩ buttons.

⑪ **Number buttons**
Use to select satellite broadcast channels.

⑫ **(MENU)**
Use to turn ON/OFF the main menu.

CD PLAYER operation

Set the input source to CD, and operate as desired using the following buttons.

① **POWER**
Use to turn ON/OFF the CD player.

② **II**
Use to pause playback.

③ **◄◄**
Manual search (reverse).

④ **■**
Stops playback.

⑥ **|◄◄ ►►|**
Track search.

⑨ **►**
Starts playback.

⑩ **►►**
Manual search (forward).

⑪ **Number buttons**
Use to select songs directly.

⑫ **DISC**
Use to select a disc number.
(Some CD players cannot be operated.)
Example:
When selecting disc number 27

② → ⑦ → DISC

⑬ **+10 (track) button**
Use to select a track number.
(Some CD players cannot be operated.)
Example:
When selecting track number 15

+10 → ⑤

CASSETTE DECK/VCR operation

Set the input source to VCR 1, VCR 2 or TAPE 1 and operate as desired using the following buttons.

[Operations common to the cassette deck/VCR]

① **POWER**
Use to turn ON/OFF the power of the cassette deck or VCR.
Cannot turn ON/OFF the power of some cassette decks.

② **II**
Pauses playback and recording (sets still pictures).

③ **◄◄**
Rewinds the tape.

④ **■**
Stops tape running.

⑨ **►**
Starts playback.

⑩ **►►**
Fast forwards the tape.

[VCR only]

⑥ **CHANNEL +, –**
Changes the channels of the TV tuner in the VCR.

⑪ **Number buttons**
Use for selecting the channels of the TV tuner in the VCR.

⑫ **TV/VCR**
Use to switch the VCR antenna output to TV or VCR.

⑬ **+10**
Sets the channels selected using the ⑪ Number buttons. (Some models may not require this step.)

[Cassette deck only]

For double cassette decks, the ⑪ Number buttons can be used to operate deck 1 also.
(Some models cannot be operated.)

⑪ ① **(◄◄)**
Fast forwards the tape in the direction of the arrow.
② **(■)**
Stops tape running.
③ **(►)**
Plays back the tape.
④ **(►►)**
Fast forwards the tape in the direction of the arrow.

memo

Pressing ② II and ④ ■ simultaneously will also set REC for the VCR and cassette deck.
REC cannot be set for deck 1 of double cassette decks.

TV operation

Set the input source to TV CONTROL, and operate as desired using the following buttons.

① **POWER**
Use to turn ON/OFF the TV power.

② **▲**
Raises the TV volume.

④ **▼**
Lowers the TV volume.

⑤ **VOL +, –**
Use to adjust the TV volume.

⑥ **CHANNEL +, –**
Use to select a TV broadcast channel.

⑨ **ENTER**
Sets the channels selected using the ⑪ Number buttons. (Some models may not require this operation.)

⑪ **Number buttons**
Use to select TV broadcast channels.
Example: When selecting channel 25

② → ⑤

With some models, press ⑨ ENTER after selecting the channel to set the selection.

[Operation for TVs with a menu screen (PIONEER products only)]

② **▲**, ③ **◄**, ④ **▼**, ⑩ **►**
Use to move the cursor in the menu screen up, down, left and right.

⑨ **ENTER**
Sets the position of the cursor selected using the ②, ③, ④, and ⑩ buttons.

⑫ **(MENU)**
Displays the menu screen for adjusting picture quality.

The following buttons can be used regardless of the input source setting.

⑦ **TV POWER**
Use to turn ON/OFF the TV power.

⑧ **TV FUNC**
Use to select the TV input. (Cannot be selected in some TVs.)

TUNER operation

Only PIONEER products can be operated.
Set the input source to TUNER, and operate as desired using the following buttons.

① **POWER**
Use to turn ON/OFF the tuner power.

② **FQ +**
Shifts the frequency up.

④ **FQ –**
Shifts the frequency down.

⑥ **Station buttons**
Use to select stations in the current CLASS.

⑨ **AM/FM select button**

⑪ **Number buttons**
Use to select station call.

⑬ **CLASS**
Use to switch between preset station memory classes 1 to 3.

MODE CHECK BUTTON

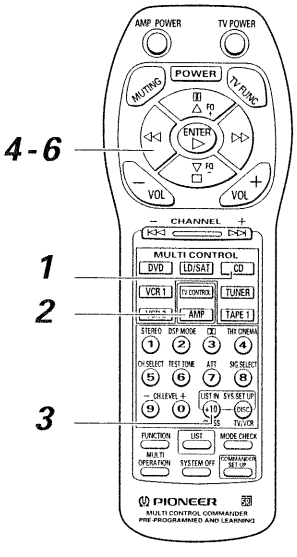
When the MODE CHECK button is pressed once, the MULTI CONTROL button currently selected will light.
When the MODE CHECK button is pressed again while lit, the MULTI CONTROL buttons will light in order, enabling the selected product to be remote controlled without changing the function of this unit.

CREATING A CD LIST

You can use the memory to store names up to a maximum of 16 characters long for up to 100 file-type CD player discs.

memo

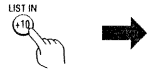
Switch power to the amplifier and TV ON.

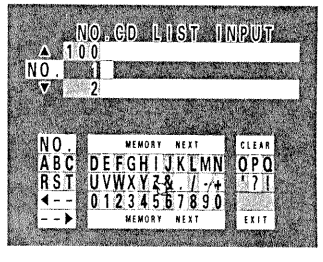


1. **Set the CD function.**

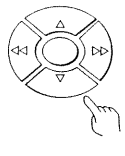
2. **Select the AMP button to enable amplifier operation.**

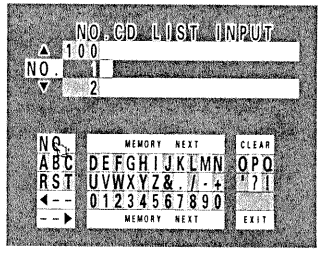
3. **Set the CD LIST INPUT mode.**



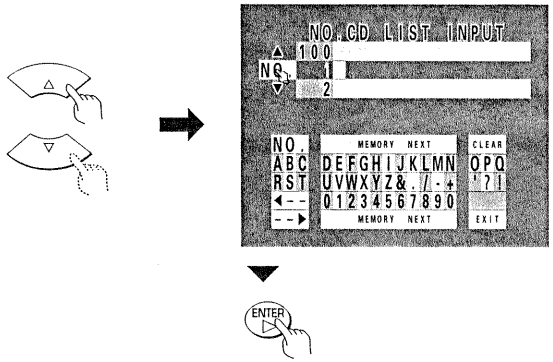


4. **Select a desired CD number.**





4 OPERATIONS



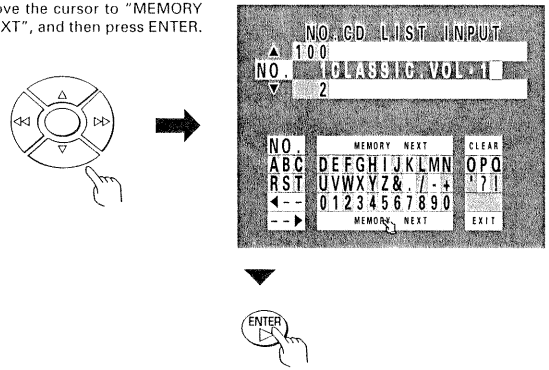
5. **Input a CD name.**

Letter input — Move the cursor to the desired letter or number and press the ENTER button.

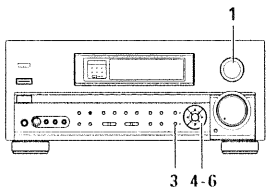
Changing letters — Move the cursor to "◄--" or "--►", press the ENTER button, and select the letter you want to change. Then input the desired letter.

Erasing letters — Move the cursor to "CLEAR", press the ENTER button, and all the letters of the selected CD number are erased.
Select the letter you want to erase, move the cursor to "□", then press the ENTER button, and the selected letter is erased.

6. **Memorize a name.**
Move the cursor to "MEMORY NEXT", and then press ENTER.



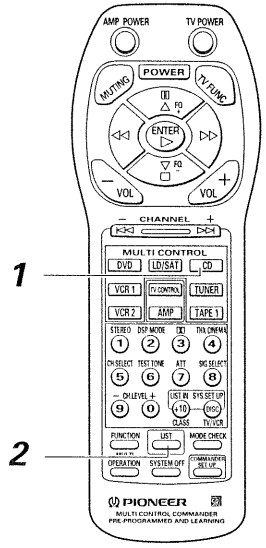
Press the ENTER button, and the CD name input menu for the next number is displayed.
To quit inputting names, move the cursor to "EXIT", and press the ENTER button or LIST IN button.



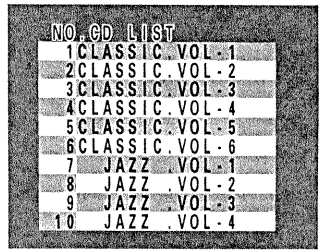
■ **Operating with the main unit**
You can perform operations on the main unit in the same way as when using the remote control. (When performing operations on the main unit, there is no need to perform Step 2.)

DISPLAYING THE CD LIST (Remote control unit only)

Memorized CD LIST titles are displayed 10 at a time.
You can use the list for confirmation when selecting a disc number and playing a CD.



1. **Set the CD function.**

2. **Display the CD LIST.**

*Each time you press the LIST button, the next 10 CD LIST titles are displayed.

To play a CD, press the number buttons and the DISC button.
Example: When selecting disc number 54.

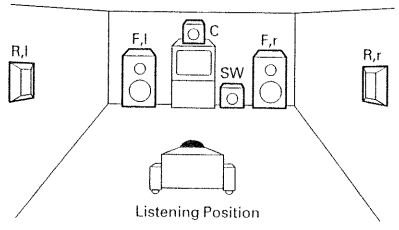
⑤ → ④ → DISC

If you do not perform any operation within 30 seconds, CD LIST is automatically switched OFF. You can switch the CD LIST off by pressing the CD button.

4 OPERATIONS

SURROUND

Surround type

Dolby Digital (AC-3)	Dolby Pro Logic Surround
Mode for enjoying movie and music software with the DOLBY DIGITAL (DOLBY SURROUND) mark. Dolby Digital (AC-3) is a compression format which records the sound of 6 channels of the theater surround system (Dolby Digital) on the movie film digital track. Of the 6 channels, the sub woofer channel is intended for bass only, and because the frequency range is smaller than the main channel, it is expressed as 5.1 channel.	Set to this position for movie and music sources (especially software with the DOLBY SURROUND mark). Dolby Pro Logic Surround continuously detects the size and direction of the input signal. This clarifies the position of the sound source, reproducing natural sound flow.  * In the above figure, F stands for FRONT speakers, R for REAR speakers, C for CENTER speaker, SW for sub woofer, r for right, and l for left.

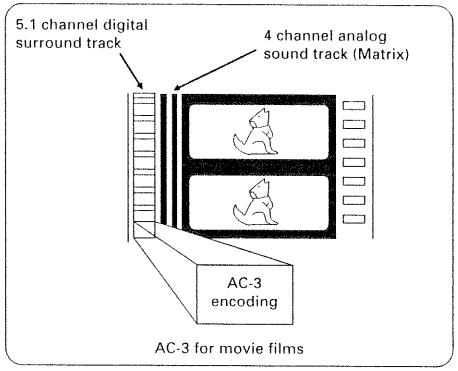
Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", "AC-3", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

■ DSP mode

HALL	Simulates the acoustic effects of a large concert hall in Europe. Suitable for classical music. Long delay time of reflected sounds (approx. 20 to 200 ms), coupled with reverberation effects let the listener enjoy the dynamic and beautiful sounds characteristic of concert halls and powerful orchestral performances.
JAZZ	Simulates the acoustic effects of general jazz clubs with a floor space of around 400m². Reflected sound is virtually below 100 ms, which allows the listener to enjoy live-band effects.
DANCE	Simulates the acoustic effects of discos with a square dance floor. Features strong bass sound. Reflected sound delay time is virtually below 50 ms, which allows the listener to enjoy the "fever" of disco sounds.
THEATER 1	Sets the delay time of the reflected sound best suited for playing back acoustic parameters of a medium movie theater (with seating capacity of 300) in your living room. (About 30 to 120 msec.)
THEATER 2	Reproduces theater sound field effects without losing the localization of each channel.

Dolby Digital (AC-3)

Dolby Digital (AC-3) is the name of the Dolby surround multi-channel digital system that was developed after the Dolby Surround System and Dolby Pro Logic Surround System.

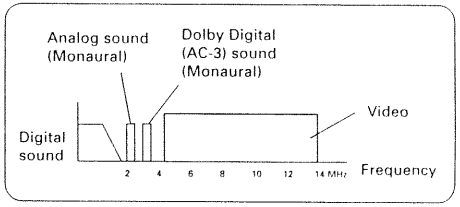


AC-3 for movie films

The number of movies made using Dolby Digital since 1992 has exceeded 300 and continues to increase. For compact disc players and laser disc digital sounds, 16 bits are used to sample the original analog audio waveform and sampling is carried out 44,100 times every second. However because an enormous amount of recording signal data is required for the multi-channel system with this method, AC-3 is used to compress the data.
In reproducing audio signals, the smaller the bit number used, the lower the sound quality. With AC-3, any drop in auditory sound quality is prevented by using masking and digital filtering technologies based on personal auditory characteristics.

■ **Laser disc format**

Laser discs are now available on the market in large numbers. This means that the recording of different format audio signals on the laser disc raises the important question of compatibility with existing laser discs. Dolby Digital (AC-3) records signals using one analog audio channel to maintain this compatibility with existing discs and players.
As shown in the following figure, the digital audio sounds of Dolby Digital (AC-3) discs can be played back as currently done. Analog sounds are played back by using the other channel without the Dolby Digital (AC-3) signals for monaural audio signals.



■ **Comparison with Dolby Pro Logic Surround**

Dolby Digital (AC-3) is also known as the 5.1 channel system. It is equipped with 5 channels (front left, front right, center, surround left, surround right) in the frequency range from 20 Hz to 20 kHz and an independent sub woofer channel. The sub woofer channel is also called LFE (Low Frequency Effect).
The LFE channel can be used as desired to enjoy strong bass sounds.
The following table shows the comparison with Dolby Pro Logic Surround effects.

	Dolby Digital (AC-3)	Dolby Pro Logic Surround
No. of recording channels	5.1 channels (Max.)	2 channels
No. of playback channels	5.1 channels (Max.)	4 channels
Playback channel structure	Front left, front right, center, surround left, surround right, sub woofer	Front left, front right, center, surround
Sound processing	Digital discrete processing	Analog matrix processing
Surround (Rear) high frequency playback limit	20,000 Hz	7,000 Hz
Other	• 5.1 channel is completely independent • High dynamic range • Stable position, high phase characteristics, and advanced surround effects reproduction	

THX

THX is a Lucasfilm, Ltd. program dedicated to maximum accuracy in movie presentation. Movie soundtracks are recorded in large movie dubbing stages using movie theater equipment. For a soundtrack to be presented accurately in your home, special technologies are required. In your home the room is much smaller and has a lively sound, the speakers are very different and there are only six of them, plus, you sit much closer to each one of those speakers. Because of these differences we often miss the power and emotion that so thrills us in a good movie. Now Pioneer and THX have teamed up to bring the full glory of accurate cinema sound to the comfort and convenience of your home.

- **Re-Equalization™** : In a theater the room is very large and dead sounding, you sit a long way back from the speaker and the speakers themselves are very specialized. Because a soundtrack recorded in this dead sounding space when it is played at home it sounds over-bright. THX Re-Equalization adjusts for this difference in a very precise way.

- **Dynamic Decorrelation™** : When a soundtrack sends mono sound to the surround speakers it often seems to be coming from one side instead of from all around you as it would in a theater. Dynamic Decorrelation helps to correct this inaccuracy.

- **Timbre Matching™** : When recording a soundtrack it is very important that the surround sounds move smoothly and seamlessly around the theater. It is very distracting when sounds seem to jump from speaker to speaker. Timbre Matching helps to smooth the movement of the surround sounds even though you are using only two speakers.

- **Bass Peak Level Manager™** : Some Dolby Digital soundtracks can produce bass peaks that are undesirable in a home theater environment. The Bass Peak Level Manager allows you to set the maximum peak levels appropriate to your system. (Set this function according to the instructions on page 12.)

- **Loudspeaker Position Time Synchronization™** : This feature allows you adjust for the difference in the distance from each individual loudspeaker to the listening position. Doing this insures that all the speakers operate in precise synchronization improving the seamless nature of the soundfield. (Set this function according to the instructions on page 14.)

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
The power does not turn ON.	• The power plug is disconnected from the outlet. • The cause may lie in the protection circuit.	• Insert into the wall outlet. • Disconnect the power plug from the outlet, and insert again.
The unit does not work even when the buttons are pressed.	• Due to effects of static electricity when the air is dry.	• Press the front panel RESET button. • Disconnect the power plug from the outlet, and insert again.
No sound is output when a function is set.	• Not properly connected. • Sound is muted. • The volume is turned down. • The TAPE 2 MONITOR is ON. • The speaker switch is OFF.	• Refer to pages 8 – 11, and connect again. • Press the MUTING button on the remote control unit. • Adjust the MASTER VOLUME. • Press the TAPE 2 MONITOR button. • Press the SPEAKER button of the terminal (A/B) connected to the speakers.
No image is output when a function is set.	• Not properly connected. • The input source is not properly selected.	• Refer to pages 8 – 9, and connect again. • Press the correct button.
Considerable noise in radio broadcasts.	• AC-3 RF and digital signal connection wires are near the antenna terminal and antenna wires.	• Distance the AC-3 RF and digital signal wires from the antenna terminal and antenna wires.
No sound from surround or center speakers.	• Settings are incorrect. • Surround or Center level is turned down. • The SURROUND or CENTER speaker is disconnected.	• Refer to page 38, and set. • Raise the level. • Connect. (pages 8 – 9)
Sound is produced from other functions, but no sound from LD player or DVD player.	• SIGNAL SELECT is set to other input signal than that connected to.	• Set the SIGNAL SELECT to AUTO.
Cannot be remote controlled.	• The remote control unit batteries have worn down. • Too great of a distance. Bad angle. • There is an obstacle blocking signals in between the main unit and the remote control unit. • Strong light such as fluorescent light is shining onto the unit's remote control signal light-receiving window.	• Replace the batteries. (page 4) • Operate within a range of approx. 7m from the remote sensor window, and within angles of up to approx. 30 degrees. • Remove the obstacle or operate from somewhere else. • Avoid direct exposure of the remote control light-receiving window to the light.

If the unit does not operate normally due to external effects such as static electricity, press the RESET button on the front panel or disconnect the power plug from the outlet and insert again to return to normal operating conditions.

LIST OF MANUFACTURER CODES

In the PRESET RECALL SET UP MODE, the manufacturers' ID codes that you can memorize in the remote control functions are limited to the codes you can call up with GUI.

LD		
1	DENON	106
2	HITACHI	105
3	PHILIPS	104
4	RADIOLA	104
5	SONY	101
		103
6	TELEFUNKEN	100
7	PIONEER	100
	(DVD LD PLAYER)	102

SAT		
1	RCA	201
		203
2	SONY	202
3	PIONEER	200

TAPE		
1	AKAI	823
2	ARCAM	810
3	DENOM	810
		821
4	FISHER	813
5	GRUNDIG	815
6	JVC	802
7	KENWOOD	804
		807
		816
8	LUXMAN	805
9	MARANTZ	815
10	MEMOREX	819
11	MITSUBISHI	823
12	NAKAMICHI	806
13	ONKYO	808
		812
14	PHILIPS	815
15	SANSUI	818
16	SHERWOOD	809
17	SONY	801
		817
18	TANDBERG	814
19	TECHNICS	803
20	TOSHIBA	820
		822
21	YAMAHA	811
		816
22	PIONEER	800
		819

CD		
1	AKAI	308
2	ARCAM	312
3	ASUKA	313
4	AUDIO TON	312
5	BUSH	305
6	CALIFORNIA AUDIO LAB	304
7	CYRUS	312
8	DENOM	309
9	DUAL	313
		319
10	FISHER	317
11	GOLDSTAR	302
12	GRUNDIG	312
13	HITACHI	307
14	INTERSOUND	313
15	JVC	303
16	KENWOOD	310
		311
17	KODAK	322
18	LINN	312
19	LUXMAN	318
20	M ELECTRONIC	323
21	MARANTZ	304
		312
22	MATSUI	312
23	MCS	304
24	MEMOREX	300
25	MERIDIAN	312
26	MITSUBISHI	308
27	NAD	316
28	NAIM	312
29	ONKYO	320
30	PANASONIC	304
31	PHILIPS	312
		322
32	QUAD	312
33	QUASAR	304
34	ROADSTAR	323
35	ROTEL	312
36	SABA	319
37	SANYO	317
38	SHARP	321
39	SONY	301
		316
40	TECHNICS	304
		306
41	TELEFUNKEN	319
42	THOMSON	319
43	UNIVERSUM	312
44	YAMAHA	314
		315
45	PIONEER	300

DVD		
1	TOSHIBA	001
2	PIONEER	000

TUNER		
	PIONEER	500

VCR		
1	PHILIPS	414
		428
2	PANASONIC	403
		408
3	THOMSON	417
		420
		428
4	SONY	416
		417
5	JVC	407
		417
		428
6	GRUNDIG	408
		414
		419
		425
		426
		427
7	AKAI	401
		417
8	HITACHI	406
		417
		419
9	TOSHIBA	405
		409
		414
		417
		428
10	MITSUBISHI	407
		409
		414
11	SHARP	402
12	ORION	412
		413
		424
13	SANYO	410
14	FERGUSON	417
		420
		421
15	BLAUPUNKT	403
		408
		417
		427
16	NOKIA	401
		410
		417
17	SELECO	417
18	AIWA	413
		419
19	AKIBA	425
20	ALBA	413
		415
		418
		423
		424
21	AMBASSADOR	423
22	AMSTRAD	419
23	ANITECH	425
24	ASA	411
		414
25	BAIRD	410
		417
		419
		421
26	BASIC LINE	418
		423
		425
27	BRANDT	420
		422
28	BRANDT ELECTRONIQUE	417
29	BUSH	413
		415
		418
		424
		425
30	CATRON	423
31	CGB	419
32	CIMLINE	425
33	CLATRONIC	423
34	CONDOR	423
35	CROWN	418
		423
		425
36	DAEWOO	418
		423
37	DANSAI	425
38	DE GRAAF	406
39	DECCA	414
		419
40	DUAL	417
41	DUMONT	410
		414
		419
42	ELCATECH	425
43	FIDELITY	419
44	FINLANDIA	410
		414
45	FINLUX	406
		410
		414
		419
46	FIRSTLINE	405
		409
		411
		424
		425
47	FISHER	410
48	FRONTECH	423
49	FUNAI	419
50	GBC	414
51	GENERAL	423
52	GOLDSTAR	411
53	GOODMANS	411
		418
		419
		423
		425
54	GRAETZ	410
		417
55	GRANADA	410
		414
56	GRANDIN	411
		419
		425
57	HCM	425
		426
58	HINARI	412
		413
		425
		426
59	HYPSON	425
60	IMPERIAL	419
61	INTERFUNK	414
62	ITT	401
		410
		417
		428
63	ITV	411
		418
64	KAISUI	425
65	KENDO	410
		424
66	KORPEL	425
67	LEYCO	425
68	LOEWE	411
		414
69	LUXOR	401
		409
		410
70	M-ELECTRONIC	419
71	MANESTH	405
		425
72	MARANTZ	414
73	MATSUI	412
		413
		424
74	MEMOREX	410
		411
		419
75	MEMPHIS	425
76	METZ	403
		427
77	MINERVA	427
78	MULTITECH	419
		425
79	MURPHY	419
80	NBC	407
		417
81	NECKERMAN	414
82	NESCO	425
83	NORDMENDE	417
		428
84	OCEANIC	417
		419
85	OSAKI	411
		419
		425
86	OTTO VERSAND	414
87	PALLADIUM	411
		417
		425
88	PATHE MARCONI	417
89	PENTAX	406
90	PERDIO	419
91	PHONOLA	414
92	PORTLAND	423
93	PROLINE	419
		426
94	PYE	414
95	QUELLE	414
96	RADIOLA	414
97	REX	417
		428
98	ROADSTAR	411
		418
		425
99	SABA	417
		420
		428
100	SAISHO	412
		424
101	SALORA	401
		409
102	SANSUI	407
		417
103	SBR	414
104	SCHAUB LORENZ	417
		419
105	SCHNEIDER	414
		419
		425
106	SEI	414
107	SENTRA	423
108	SHINTOM	425
109	SIEMENS	410
		411
		427
110	SINGER	405
111	SINUDYNE	414
112	SOLAVOX	423
113	SUNSTAR	419
114	SUNTRONIC	419
115	TASHIKO	419
116	TATUNG	414
		417
		419
117	TEC	423
118	TELEAVIA	417
119	TELEFUNKEN	417
		420
		422
		428
120	TENOSAL	425
121	TENSAI	419
122	THORN	410
		417
123	UNIVERSUM	401
		411
		414
		419
		427
124	YAMISHI	425
125	YOKAN	425
126	YOKO	423
127	PIONEER	400
		404
		407
		414

TV

1	PHILIPS	601	34	ASUKA	619	82	GOODMANS	607	120	MATSUI	607	157	SEI	603
		607	35	AUDIOGONIC	607			616			616			617
		610			612			626			617			628
		636	36	BASIC LINE	619			627			620	158	SELECO	601
2	SONY	604			623			636			623			620
3	GRUNDIG	601	37	BAUR	601	83	GORENJE	615			626	159	SIAREM	603
		632			607	84	GPM	619			627			628
4	PANASONIC	601			620	85	GRAETZ	601	121	MCMICHAEL	610	160	SINUDYNE	603
		608	38	BEKO	615			620	122	MEDIATOR	607			616
		620	39	BEON	607	86	GRANADA	607	123	MEMOREX	623			617
		622	40	BLUE SKY	619			611	124	METZ	601			628
5	TOSHIBA	605	41	BLUE STAR	618			620	125	MINERVA	601	161	SKANTIC	621
		632	42	BPL	618			621			632	162	SOLAVOX	601
6	TELEFUNKEN	612	43	BTC	619			627	126	MULTITECH	623	163	SONOKO	607
		614	44	BUSH	607	87	GRANDIN	618			628			623
		631			619	88	HANSEATIC	607	127	NECHERMANN	601	164	SONOLOR	601
7	SHARP	602			620			620			607			611
8	SAMSUNG	607			623	89	HCM	618	128	NEI	607	165	SONTEC	607
		615			626			623			620	166	SOUNDWAVE	607
		623			636	90	HINARI	607	129	NIKKAI	605	167	STANDARD	619
		625	45	CASCADE	623			619			607			623
9	HITACHI	601	46	CATHAY	607			623			619	168	STERN	601
		606	47	CENTURION	607	91	HISAWA	618			625	169	SUSUMU	619
		610	48	CGB	620	92	HUANYU	636			627	170	SYSLINE	607
		612	49	CIMLINE	623	93	HYPSON	607	130	NOBLIKO	628	171	TANDY	601
		620	50	CLARIVOX	607			618	131	OCEANIC	601			619
		621	51	CLATRONIC	615			625			603			627
		633	52	CONDOR	615	94	ICE	625			620	172	TASHIKO	610
		637	53	CONTEC	623			626	132	OSAKI	619	173	TATUNG	607
10	SABA	601	54	CROSLEY	603	95	IMPERIAL	615			625			627
		612	55	CROWN	615			620			627	174	TEC	620
		620			623	96	INDIANA	607	133	OSO	619	175	TELEAVIA	612
		630	56	CRYSTAL	620	97	INGELEN	601	134	OSUME	627	176	TELETECH	623
11	BRANDT	612	57	CYBERTRON	619	98	INTERFUNK	601	135	OTTO VERSAND	601	177	TENSAI	617
12	SANYO	611	58	DAINICHI	619			603			603			619
		624	59	DANSAI	607			607			607	178	THORN	601
		627	60	DAYTON	623			620			620			607
13	THOMSON	612	61	DECCA	607	99	INTERVISION	625	136	PALLADIUM	615			620
		630			627			628	137	PANAMA	625			624
		631	62	DIXI	607	100	ISUKAI	619	138	PATHO CINEMA	620			627
14	FERGUSON	607			623	101	ITC	620	139	PAUSA	623	179	TOMASHI	618
		612	63	DUMONT	632	102	ITT	601	140	PHILCO	603	180	TOWADA	620
		630	64	ELIN	607			603			620	181	ULTRAVOX	603
15	NOKIA	603	65	ELITE	619			620	141	PHOENIX	603			620
		620	66	ELTA	623	103	JEC	605	142	PHONOLA	607			628
		631	67	EMERSON	620	104	KAISUI	618	143	PROFEX	620	182	UNIVERSUM	601
16	MITSUBISHI	601	68	ERRES	607			619			623			607
		609	69	FINLANDIA	611			623	144	PROTECH	607			615
17	SCHNEIDER	607			621	105	KAPSCH	601			620			620
		619			635	106	KENDO	620			623			624
		626	70	FINLUX	603	107	KENNEDY	603			625			625
18	GOLDSTAR	607			607			620			628			633
		629			624	108	KORPEL	607	145	QUELLE	601			635
19	BLAUPUNKT	601			627	109	KOYODA	623			603	183	VESTEL	607
20	NORDMENDE	603			632	110	LEYCO	607			607	184	VOXSON	601
		612			633			617			620	185	WALTHAM	621
		630			635			625			624	186	WATSON	607
		631	71	FIRSTLINE	617			627			632	187	WATT RADIO	603
21	RADIOLA	607			623	111	LIESENK&TTER	607	146	R-LINE	607			620
22	JVC	613	72	FISHER	603	112	LUXOR	603	147	RBM	632			628
23	DAEWOO	607			611			620	148	REDIFFUSION	603	188	WHITE WESTINGHOUSE	607
		623			615			621			620	189	YOKO	607
		636			624	113	M ELECTRONIC	601	149	REX	601			620
24	ORION	603	73	FORMENTI	603			623			625			625
		607			607			624	150	ROADSTAR	619	190	PIONEER	600
		616			620			633			623			601
		617	74	FRONTECH	601			635			625			603
25	SIEMENS	601			620			636	151	SAISHO	616			607
26	ACURA	623			625	114	M-ELECTRONIC	607			623			612
27	ADMIRAL	601	75	FRONTECH/PROTECH	603			612			625			620
28	AKAI	603	76	FUJITSU	627			630	152	SALORA	601			630
		611	77	FUNAI	617	115	MAGNADYNE	603			603			
		620			625			628			620			
29	AKURA	619	78	GBC	603	116	MAGNAFON	628			621			
30	ALBA	607			620	117	MANESTH	616	153	SAMBERS	628			
		616	79	GEC	607			625	154	SBR	607			
		619			610	118	MARANTZ	607			610			
		623			627	119	MARK	607	155	SCHAUB LORENZ	620			
31	AMSTRAD	620	80	GELOSO	603				156	SEG	620			
		623			623						625			
		626	81	GENEXXA	601									
32	ANITECH	623			619									
33	ASA	624												

SPECIFICATIONS

Amplifier section

Continuous power output (DIN, 2 channels driven)*
  Stereo (1 kHz, T.H.D. 1 %, 6 Ω) ..... 110 W + 110 W
Continuous power output (DIN, 2 channels driven)*
  Stereo (20 Hz – 20,000 Hz, T.H.D. 0.09 %, 6 Ω) .... 100 W + 100 W
Continuous power output (DIN, 5 channels driven)
Surround
  Front ..... 100 W + 100 W (1 kHz, 1 %, 6 Ω)
  Center ..... 100 W (1 kHz, 1 %, 6 Ω)
  Rear ..... 100 W + 100 W (1 kHz, 1 %, 6 Ω)
Total Harmonic Distortion (both channels driven)*
  Stereo (20 Hz– 20,000 Hz, 6 Ω, 100 W OUTPUT) ..... 0.09 %
Dynamic Power (2 Ω/4 Ω/8 Ω) ..... 270 W/150 W/85 W

● *Above specifications are for when power supply is 230 V.*

Input (Sensitivity/Impedance)
  PHONO MM ..... 3.8 mV/47 kΩ
  CD, TAPE 1, TAPE 2, VCR 1, VCR 2, LD/SAT, TUNER,
  DVD/TV, VIDEO ..... 275 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1 %, 1 kHz)
  PHONO MM ..... 100 mV
Frequency Response
  PHONO MM ..... 20 Hz to 20,000 Hz ±0.3 dB
  CD, TAPE 1, TAPE 2, VCR 1, VCR 2, LD/SAT, TUNER,
  DVD/TV, VIDEO ..... 5 Hz to 100,000 Hz ³⁄₋₃ dB**
Output (Level/Impedance)
  TAPE 1 REC, TAPE 2 REC, VCR 1 OUT,
  VCR 2 OUT ..... 275 mV/1 kΩ
Tone Control
  BASS ..... ±6 dB (100 Hz)
  TREBLE ..... ±6 dB (15 kHz)
  LOUDNESS ..... +4 dB (100 Hz)
  +2.5 dB (10 kHz)
Signal-to-Noise Ratio (IHF, short circuited, A network)
  PHONO MM ..... 80 dB**
  CD, TAPE 1, TAPE 2, VCR 1, VCR 2, LD/SAT, TUNER,
  DVD/TV, VIDEO ..... 97 dB**
Signal-to-Noise Ratio
[DIN (Continuous rated power output/50 mW)]
  PHONO MM ..... 70/64 dB**
  CD, TAPE 1, TAPE 2, VCR 1, VCR 2, LD/SAT, TUNER,
  DVD/TV, VIDEO ..... 90/65 dB**

** Measured by Audio Spectrum Analyzer.*
*** DIRECT button is ON.*

VIDEO Section (S jack)

Input (Sensitivity/Impedance)
  VCR 1, VCR 2, VIDEO, DVD/TV, LD/SAT
    Luminance signal (Y) ..... 1 Vp-p/75 Ω
    Chrominance signal (C) ..... 0.268 Vp-p/75 Ω
Output (Level/Impedance)
  VCR 1, VCR 2, MONITOR
    Luminance signal (Y) ..... 1 Vp-p/75 Ω
    Chrominance signal (C) ..... 0.268 Vp-p/75 Ω
Frequency Response
  VCR 1, VCR 2, VIDEO, DVD/TV, LD/SAT
    Luminance signal (Y) ..... 5 Hz to 10 MHz ³⁄₋₃ dB
Signal-to-Noise Ratio
  Luminance signal (Y) ..... 55 dB
Cross Talk (3.58 MHz) ..... 55 dB

VIDEO Section (Composite)

Input (Sensitivity/Impedance)
  VCR 1, VCR 2, VIDEO, DVD/TV, LD/SAT ..... 1 Vp-p/75 Ω
Output (Level/Impedance)
  VCR 1, VCR 2, MONITOR TV ..... 1 Vp-p/75 Ω
Frequency Response
  VCR 1, VCR 2, LD/SAT, DVD/TV,
  VIDEO → MONITOR ..... 5 Hz to 10 MHz ³⁄₋₃ dB
Signal-to-Noise Ratio ..... 55 dB
Cross Talk ..... 55 dB

Miscellaneous

Power Requirements
  U.K. model ..... AC 230 Volts, 50/60 Hz
  European model ..... AC 220 – 230 Volts, 50/60 Hz
Power Consumption ..... 1200 W
In Standby Condition ..... 6 W
AC OUTLETS (European model only)
  SWITCHED x 2 ..... TOTAL 100 W MAX
  UNSWITCHED x 1 ..... 100 W MAX
Dimensions ..... 420 (W) x 177 (H) x 449 (D) mm
Weight (without package) ..... 15.4 kg

Furnished Parts

Dry cell batteries (AA/LR6, Alkaline) 2
Remote control unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.